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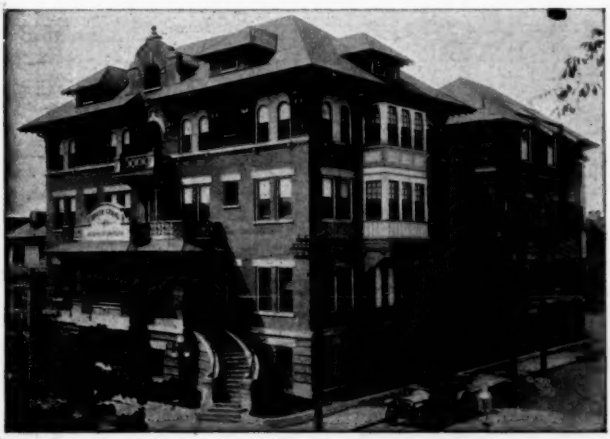

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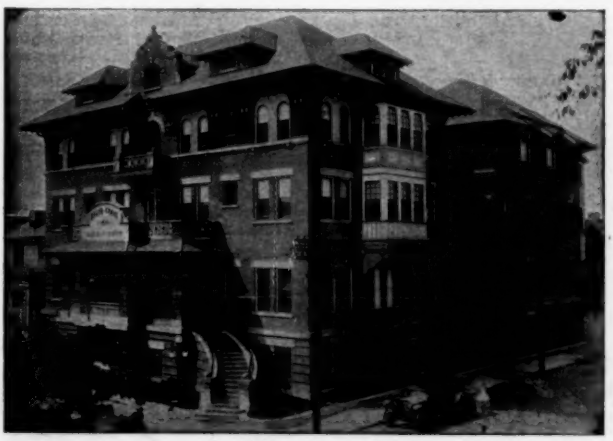

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The Journal OF THE South Carolina Medical Association

VOL. XII. GREENVILLE, S. C., DECEMBER, 1916 #12

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ASSOCIATE EDITORS.

INTERNAL MEDICINE.
J. H. GIBBES, M. D., Columbia, S. C.

PEDIATRICS.
WM WESTERN, M. D., Columbia, S. C.

OBSTETRICS AND GYNECOLOGY.
ATMAR SMITH, M. D., Charleston, S. C.

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J. LaBRUCE WARD, M. D., Columbia, S. C.

EYE, EAR, NOSE, AND THROAT.
E. W. CARPENTER, M. D., Greenville, S. C.

EDITORIAL

The Tri-State Medical Society of the Carolinas and Virginia.

The preliminary program of the Tri-State Society is at hand and contains a large number of timely topics. The meeting will be held at Richmond, Feb. 16, 17.

We note with pleasure that Dr. James H. McIntosh, of Columbia, is president, and Dr. R. E. Hughes, of Laurens, is secretary-treasurer. Dr. W. A. Boyd, of Columbia, is Chairman of the Surgery Section. Dr. McIntosh is an ex-president of the South Carolina Medical Association, while Dr. Hughes is the Chairman of the Scientific Committee, for our approaching Charleston meeting.

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three years under the editorial management of Dr. J. W. Jervey.

Our readers will bear in mind, then, the change of address, and forward all communications to Seneca.

Our Guests at the Charleston Meeting.

We are now in position to announce the names of our guests at the Charleston meeting April 18, 19, 20th.

The address in Medicine will be delivered by Dr. L. F. Barker, of Johns Hopkins.

The address in Surgery by Dr. Wm. J. Mayo, of Rochester, Minn.

The address in Pediatrics by Dr. Maynard Ladd, of Harvard.

President Neuffer has been untiring in his efforts to bring about the above arrangement, and it goes without saying that this announcement will go far towards securing the greatest meeting in our history.

Invite the Ladies to the Charleston Meeting.

Many of the State Societies make a special feature of providing for the attendance of the wives and daughters of the members at the annual meetings. We have not done so, but why not? Is there any good reason for not following the example set by other states in this regard, and especially by the American Medical Association?

The Secretary-Editor would appreciate an expression from the membership on this point, and if the suggestion meets with approval he will make every effort to bring about its success. Charleston is the ideal city in which to try out the proposition.

ORIGINAL ARTICLES

INTERNAL MEDICINE AS A SPECIALTY

By J. H. Gibbes, M. D., Columbia, S. C.

THE last decade has found specialization in Medicine on the increase, the sub-divisions of medicine on the one hand and of surgery on the other having been formed so rapidly as to forbid enumeration. This division of labour on the part of medical men owes its inception primarily to the increasing breadth of medical knowledge, to the replacement of generalities by detailed scientific facts, and to the realization that a mastery of all the phases of Medicine is beyond the scope of any individual. A well regulated medical community, as for example our best organized hospitals, reminds one of a delicately adjusted piece of machinery, the efficiency of the integral parts being necessary to the proper working of the whole. Medicine may look with pride upon her direct offsprings, pediatrics, neurology, psychiatry, and gastro-enterology; surgery is to be congratulated upon the development and healthy growth of genecology, obstetrics, orthopaedics, genito-urology, and the surgery of the central nervous system; while these two mother branches may each claim as their foster-children, roentgenology, and clinical laboratory investigation.

Much of Medicine has attained to the dignity of an exact science, and this wide range of specialization rep-

Read before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

resents an effort on the part of clinical workers to become exact scientists in their respective fields. In the main the results have been increasing efficiency of clinical workers, increasing satisfaction to these men in their work, and increasing benefit on the part of the public. However, we should not lose sight of the possible disadvantages of this movement. Specialization tends to narrowness of view, and if we allow it to rob us of our broad perspective, of our philosophical conception of the normal and the abnormal in our fellow-man, then have we lost much that we might have expected to gain.

It is interesting to find in retrospect that the origin of specialization, the separation of Medicine into medicine and surgery, was not founded upon the desire for increasing efficiency, but was the outcome of a misguided submission to the ecclesiastical authority of the middle ages. In the words of Sir Clifford Allbutt, "our division of Medicine into medicine and surgery had its root not in Nature, nor even in natural artifice, but in clerical, feudal, and humanistic conceits". Hippocrates and Galen knew no such distinction, "in practice as in honour medicine and surgery were then one", and the art of surgery was by no means neglected. But shortly after Galen, largely through the influence of the church from the beginning, surgery began to be set apart as a vulgar art. The effect of this was the denial of surgery to almost all scholastic physicians, for these men had received their training immediately under the supervision and domination of the church, and surgery thus fell into the hands of relatively ignorant and unlettered men. The result was an immediate loss to surgery, but its practitioners, unhampered by tradition, unimpeded by authority, and with the clear vision of original thought, succeeded, after years of travail and humility, in outstripping their medical brethren, in blazing the way of surgical science, and in finally producing such men as Roger of Palermo, Roland of Parma, Saliceto, Lanfranc, Henri de Mondeville, Guy de Chauliac, and Ambrose Pare. In the meantime, medicine, through this self-selected submission to Galenical and clerical authority, had drawn into a shell, and had become hopelessly pedantic and inefficient. In thinking of the medicine of the pre-rennaissance period, we are minded of Robert Burton's statement, "to profess a disinclination for that knowledge which is beyond us is pedantic ignorance." Absurdities abounded. One need only mention the custom of "Medicinis Reclus", in which the physician disdained to visit patients, but received ambassadors, messages, and specimens of urine, and ordered his treatment upon these bases. In recognition of the absurdity of the custom, Webster states in his "Duchess of Malfi", "The urine is the physicians whore, for it cozens him." And Shakespeare gives undue discretion to Falstaff's medical adviser when he causes the page to bring the following message: "He said, sir, the water itself was a good healthy water; but for the party that owed it, he might have more diseases than he knew of."

The awakening of Medicine was a gradual process, dependent largely upon the development of the fundamental science. Whether or no Benivieni be considerd the father of pathological anatomy, he certainly had the temerity to open deceased bodies and to investigate the pathological changes that had taken place, and it is hardy pioneers of this type that we have to be thankful for the breaking of the bondage of authority. Vesalius as anatomist, and Harvey as physiologist

are others who gave in their turn a new impetus to medicine. After reviewing the dark period that followed this early separation of medicine and surgery, it is refreshing to realize the fine adjustment and co-operative spirit that exist between these two professions today.

Internal Medicine is now, as it always has been, the broadest field of special endeavor in clinical medicine. Its definition and delimitation of its field of activity have never been satisfactorily expressed, though we all have more or less clearly before us in a general way the functions of the internist. In 1897 Dr. Osler said of Internal Medicine: "Not itself a specialty (though it embraces at least half a dozen), its cultivators cannot be called specialists, but bear without reproach the good old name physician, in contradistinction to general practitioners, surgeons, obstetricians, and gynecologists". While this statement is no less true today than at the time it was spoken, the general practitioners and specialists upon whose many borders internal medicine so nearly encroaches, may in all justice demand a more specific statement of the relation of the internist to them. Especially is this true of the general practitioners, for it is not fair to have them expect to find co-operation at the hands of the internist and to encounter competition in its stead.

The general practitioners constitute the great rank and file of our profession. They are the men upon whom falls the greater share of labour without return, a class whose endeavors are so often unselfish, and the group to whom we must yield the palm when the greatest good to the greatest number is the criterion of our approbation. It is the sturdy type of warrior that is represented by many of our general practitioners that comes to mind in reading the testimonial of Samuel Johnson to a member of our profession:

"When fainting Nature called for aid,
And hovering death prepared the blow,
His vigorous remedy displayed—
The power of art without the show."

Despairing of a specific definition of Internal Medicine, I shall attempt to set before you the relationship that should exist between the internist and his various fellow workers.

The Relation of the Internist to the Surgeon.

Utilitarian Medicine may be broadly divided into diagnosis and treatment, the logical application of the latter depending upon a scientific exactitude in the former. Surgery stands out as one of the most highly specialized forms of treatment, the proper usage of which demands, to an extent that no other form of treatment does, a corps of carefully trained workers. It was an appreciation of this fact by both the public and the profession that led to the early success of the surgeon as a specialist. It we could think of the surgeon in this limited sphere, his relation to the internist, as a diagnostician, would be of the simplest character. But surgery has embraced diagnostics as well as treatment, and in many conditions the diagnostic ability of the surgeon is not only equal to but superior to that of the internist. The sixth sense of the surgeon, surgical judgment, is at times superior to the broader knowledge and instruments of precision of the internist. However, it is in the capacity of diagnostician that the physician is of the greatest value to the surgeon, and it is as therapeutist that the surgeon returns the service.

There are few problems of clinical internal medicine that do not require the ever ready presence of advice and execution of surgery. Even such con-

ditions as metabolic disorders present their surgical aspects; gout, with its complicating glaucoma; diabetes, with its all too frequent gangrene; and rickets, with the occasional presentation of orthopaedic problems, show wherein the services of the surgeon are indispensible. Acute infectious diseases have almost as many surgical as medical aspects, and it is here that the ready co-operation of the surgeon and the internist may sway the balance from death to life. Perforation in typhoid fever illustrates the advantages to be gained. We can all recall the days in which this complication was practically synonymous with fatality. The lowering of this mortality rate from almost 100% to 60% or 40% is not a monument to surgery alone or to medicine, but spells in glowing symbols, fine adjustment and co-operation, early diagnosis on the one hand and efficiency in treatment on the other.

Similarly, the surgeon, a busy, practical, therapeutist, dealing mainly in measures that entail a severe shock to the body economy, must often rely upon the careful, painstaking investigations of the internist to determine the fitness of the patient to pass through the ordeal of an operation. And the after care of surgical cases often calls for therapeutics of the physician rather than for those of the surgeon. Thus, while surgery may be regarded as the right hand of medicine, so medicine must be looked upon as the right hand of surgery.

An appreciation of these facts, stresses, not the separation and distinction between medicine and surgery, but demonstrates the absolute dependence of the one upon the other.

The Relation of the Internist to Other Specialists.

The relationships here are more or less well defined, and a brief consideration will suffice. Many of the specialties, as for example, roent-genology, laboratory investigation, and some of the phases of genito-urology, are indispensable aids to the diagnostic work of the internist, and as such are utilized by him daily. There is seldom a conflict in the work of these various men, their mutual benefit and dependence is too well established, and consequently there remains little to be explained away.

As expressing the interdependence of these various specialties, I may be allowed to quote a former statement: "In modern medicine the diagnosis of obscure complaints is no longer possible through the unaided efforts of one individual. The internist is but one of a corps of investigators through whose hands a patient must pass in the hope of finding the cause of his malady. The internist must have an exact knowledge of clinical medicine, an ability to see the need of special examinations, and an interpretative view of the results of his collaborators. But he is dependent upon the roentgenologist, the laryngologist, the opthalmologist, the genito-urologist, and the laboratory worker for exact information in their respective fields.

Pediatrics is just finding its way into South Carolina. We are fortunate in having several representative men in the state who devote their entire attention to this important subject. There is probably no specialty more deserving of recognition than this one, few that can point to accomplishments so tangible as a decided decrease in infant mortality during the past few years, and it is the duty and the advantage of the internist to foster this science and to avail himself of its special knowledge.

The Relation of the Internist to the General Practitioner.

Advancement to the position of consulting physician may in general be

approached in one of two ways: through general practice, where richness of experience, long trained powers of observation, and judicious interpretation have reaped their rich reward; or through years of preliminary training in clinical and laboratory work with the express purpose of leading to efficiency in the field of pure medicine. Up to recent years, the majority of our consulting physicians have evolved from the ranks of general practice, but now it is becoming more and more common, through the stimulus afforded by the well-ordered medical departments of our better hospitals, and more especially by virtue of the inspiration that is derived from the high type of men that are at the heads of these departments, for the young graduate to engage himself in laying the solid foundation upon which to build the expert knowledge of the internist. It is in the clinics, dispensaries, and laboratories that the ambitious student spends his ten years in the "bread stage", emerging finally to pass another half score in the "bread and butter existence, with the hope of ultimately enjoying the twenty years of "cakes and ale."

This elaborate and rather laborious training of the internist, should make of him finally an expert in that work which is engaging the attention of the general practitioner daily. The general practitioner should find in him a valuable assistant, a co-worker in diagnosis and in treatment. On the other hand, it is the family attendant upon whom the consultant is chiefly dependent for his clinical opportunities and his livelihood. On the basis of this reciprocal benefit the relations between these two groups of men should be the most cordial. In order that this relationship may exist, the general practitioner must be convinced of the co-operative spirit of the internist, and, as far as possible, all elements of competition must be eliminated. In general, the application of the "Golden Rule" might fill the bill. But honesty and justice are the broad governing principles of human associations, and an observation of their mandates robs jealousy of its terrors and brings safety out of fear. The internist, as an expert, having at his command and being familiar with all of the special aids to diagnosis, and as a special student of the treatment of internal disorders, can find no more room for criticism of the general practitioner in his failure to recognize or to apply these bits of knowledge than can the surgeon or the opthalmologist under similar circumstances. Nor should the general practitioner stand in more dread of this special knowledge of the internist than he does with regard to that of other specialists.

The modern practitioner of internal medicine is coming to realize the necessity for a specific delimitation of his field of work. Where hospital facilities are ample the problem is more or less simple, for it may be safely stated that under such conditions the internist should confine his independent practice to his office and to the hospitals. By his independent practice I mean that class of patients that come to him unreferred from other physicians. For of course any consultant must stand ready to go into the home with the family attendant, and to assist him there as best he may. But where such hospital facilities do not exist, the internist should consider it within his legitimate sphere to respond to first call for the purpose of diagnosis, to undertake the management of purely medical cases, and always, at the solicitation of the general practitioner, to assist in the treatment of any patient.

The internist should carefully abstain from any semblance of family

practice. His particular training unfits him for the diversified aspects of this work, and his role of assistant to the general practitioner disqualifies him for it. If he be called into a family for the purpose of dagnosis, and find that the family have a regular attendant, he should complete his studies, and at their termination submit them with suggestions for treatment to the general practitioner in attendance upon the family. In fact, a preferable course would be for him to ask the permission of the regular family attendant before beginning upon the study of the case.

An understanding and observation of these general principles underlying the relations of the internist to the general practitioner must lead to harmony based upon mutual respect, to increased efficiency in the work of both and to more satisfactory medical services to the public.

Conclusion.

The past half-century has revolutonized medical science. Investigatons in the field of chemistry, as applied to medicine, researches in physiology, pathology, biology, and pathological physiology have done much to replace theories with facts, and dogmas with logical knowledge. Still we are doubtless but on the threshold of discovery, and the next decade will probably find our information on a much more elevated plane than it is at present. The fertile subject of internal secretions remains to a large extent to be explored, the study of the metabolic disorders lies in the main ahead of us, chemo-therapy has been but scratched on the surface, the development of specific sera is yet pregnant with possibilities, and preventive medicine has but begun to feel its strength. Here in our midst pellagra remains unexplained, and in consequence its ravages progress apace.

As practitioners of medicine, we must share the responsibilities of ignorance as readily as we bask in the profits of enlightenment. Most of the problems that I have mentioned here are those with which the internist is intimately concerned. The laboratory investigators have already been heard to complain that clinical medicine does not keep abreast of experimental studies. Not only must we familiarize ourselves with these studies in the fundamental sciences, but it is the duty of each clinical worker to consider himself an investigator in the field of abnormal physiology, to study each case as a problem whose solution may lead to the unfolding of a general truth, and, with this in view, to keep records of his observations readily accessible and of such a character as to be permanently valuable.

With all of these obligations upon him the internist must remain forever a student: an ultilitarian student, with the idea of applying his knowledge for the benefit of diseased humanity; an investigative student, in the hope of discovering new truths. The great desideratum is to strike a balance here, not to allow one's self to be swamped with practice and so lost to study, for it is this air of the student that we may carry with us into the practice of medicine that makes internal medicine simultaneously a vocation, a duty and a pleasure.

DISCUSSION:

Dr. W. S. Thayer, Baltimore.

We, of course, have all been familiar with the type of man who has grown in the past into the position of consultant. The type of man the older Janeway was —an active practitioner, and, at the same time, with every hospital advantage, who had lived n the dead house at Bellevue. Everybody recognized him

as the man they wanted and who had been so very long in practice. His opinion became so much valued by his friends that little by little he became a consultant in the capacity that Dr. Gibbes has described. That was the class of man,—although there have been very few Janeways who have occupied that position n tmes past. To a certain extent Dr. Osler may be regarded as one of the first men who consulted for another man. He was a student by nature, who had many hospital advantages, who was also, in his early years, a student, and who did, in his early days, a certain amount of practice, but not so much as the old-fashioned men. He then went to Philadelphia and did only a consultant practice, then came to Baltimore and gave a large part of his life up to the study of medicine in the wards and in the hospitals, and not in general practice, and so wide was his knowledge of the practice of medicine and of human beings, that he became just the type of man Dr. Gibbes has described: a man interested in surgery and working hand in hand with the surgeon; interested in specialists and seeking their advice, but essentially a consultant, — not through long years of private practice, but through exceptional advantages, voluntarily followed through many years; and, as Dr. Gibbes has said, it is true to-day that there are many men now who give 10 to 20 years of life, practically, to work in the hospitals, studying patients there and fitting themselves gradually to fill the position of consultant. It is true that this, followed by a certain number of men, is more advantageous to themselves and to the profession, on the whole. The younger Janeway, now at the Hopkins, has done that. He started out in New York and did some general practice, but has devoted himself most of his life to the study of medicine. He had, of course, exceptional advantages in studying thousands of selected patients who came to his father, and now, perhaps twenty years after his graduation, is an internist of the very highest type.

It is rather interesting to have these changes in the methods of medical study brought up, and I think his description of the internist in medicine, if you will, is rather interestingly brought out.

Dr. LeGrand Guerry, Columbia.

Mr. President, I am very sorry indeed that so many men have gone, who did not hear this paper of Dr. Gibbes, because I think it is a splendid paper, and it gives us a new conception and a great idea of the practice of internal medicine. It is blazing a new departure and one that every man in the state or in his community should appreciate and understand. I think it is going to be a great, big occasion when we get the idea of the community of interests centering around the patient's welfare. To push this idea into the hospital field, that this is not, necessarily, a place for the patient to be sent and turned over to some one else to treat, but that in the hospitals in the centers, that he is sent to the hospital, primarily, for a question of diagnosis. That is the big thing for every man to be interested in,—that this community of interest exists to this extent: That the man in the center has the institution, the pathologist, the cystoscopist man, the X-Ray man, nose and throat man, the surgeon, and the internal medicine man. Now, a patient sent to an institution by the organization under these auspices, you can focus an amount of skill and knowledge on a patient that will lead to a solution of his problem, impossible to attain where these conditions do not exist. In any conflict with the surgeon or any one

else we are considering the patient, and around that patient should be thrown every safeguard at our disposal for unraveling every problem that is presented. It is a new field that Dr. Gibbes is entering, and it is a pity that so many have failed to enter it.

GUN SHOT WOUNDS OF THE ABDOMEN WITH THE REPORT OF SIX CONSECUTIVE CASES.

By S. R. Harmon, M. D., Columbia, S. C.

WE all agree that Gun Shot Wounds of the abdomen is one of the most serious conditions that the physician and surgeon have to deal with. You will note that I use the term physician and surgeon, because these cases usually come to the physician first and it is up to him to act and see that the case is properly handled.

In discussing Gun Shot Wounds of the abdomen, I will speak of Penetrating, Perforating, and non-penetrating varieties:

I will not discuss the non-penetrating variety except to say that when we are sure of what we are dealing with, they should be treated as Gun Shot wounds of any other part of the body. If we are in doubt, we should explore the wound, not with a probe, but with aseptic instruments and sterile gloved hands.

I will endeavor to discuss to some extent the Penetrating and Perforating varieties, by giving my own personal idea about handling these cases, as well as to give my own technic that I have worked up. The first important step in dealing with these cases is to get them to a first class hospital, if practical, carry them at once to the operating room . Handle them as little and as carefully as possible; keep them warm and quiet. When we have our patient where we are going to operate we then want the very best assistants possible so we can work rapidly as well as thoroughly, to be able to do justice to our patients as well as to ourselves.

And just here I wish to go on record as advocating immediate operation in all cases,—just as soon as we get our patient to a suitable place and we are ready to do thorough aseptic work.

The two causes of death in these cases are hemorrhage and peritonitis neither of which improve by delay. If the wound is near the abdomen and we are in doubt about it being penetrated, it has always been our rule to open them up with all the necessary aseptic precautions. We have opened the abdomen in a few cases and found that if had not been penetrated, we were positive then, the only way we could have been. We did not harm our patient and gave them the best chance for recovery. Our method of handling these cases is to operate at once fortifying our patient's normal resistance by keeping up the body temperature with artificial heat. If necessary give them normal salt solution intravenous or by hypodermoclysis.

Open the abdomen—first ascertain if it has been penetrated—if so we go at once to a fixed point, either the Duodenum or illeocaecal junction. Trace the small intestine through if we think it advisable. Clamp all bleeding points and perforations with Kelly forceps as we come to them, being careful to keep all viscera well protected with large soft pads wrung out of warm normal salt solution always bearing in mind not to evicerate any more than necessary to do good as well as rapid work. When we have finished the small intes-

Read before the South Carolina Medical Association, Greenwood, S. C., April 22, 1915.

tines we then inspect the stomach, colon and the entire abdominal contents in a like manner, controlling all hemorrhage and clamping all perforations. When this is done we are then sure that our patient cannot bleed any more, neither will the stomach and intestinal contents leak any longer. Then with intestinal needle and fine linen we suture up each perforation and with cat gut tie all bleeding points as we come to them, cleansing the surrounding soiled tissues with warm soft moist sponges. We do not inspect the entire cavity in all cases. One has to use one's own judgment in each individual case.

By carrying out the method that I have described we handle the intestines as little as possible which is a very important factor in getting our patient well. In dealing with penetrating and perforating Gun Shot wounds of the Abdomen, we are in reality dealing with general septic peritonitis and my position is that we should handle them as such. Operate at once, go into the abdomen; remove the cause; know what we are about; be able to work rapidly, yet thoroughly. Do as little as possible to do good work and we will be able to save the most of our cases.

We institute drainage in all of our penetrating and perforating cases. In the past we advocated and drained with gauze strips. In some cases we placed a gauze drain at each perforation and always one or more in each flank and in the pelvis with very good results, but in our more recent work we have adopted the rule of draining with glass tubes in each flank and the pelvis in all of our general septic abdominal work, coupled with gauze strips in certain areas if we are in doubt of any leakage or the vitality of our tissues.

We do not practice irrigation, we rely on cleansing the tissues as well as we can with warm moist sponges.

We close the original incision, peritoneum with cat gut, fascia and skin, through and through, stitch with silk work gut, leaving the lower angle of the incision open enough to institute free drainage, provided our incision extends near enough to the Pubis. If not we cleanse the entire incision, then make a stab wound just above the Pubis and in each flank to place our drains.

As to post Operative treatment we always place our patients in the extreme Fowler position. Usually in an ordinary rolling chair we have found by actual experience that a rolling chair is the very best apparatus we have been able to obtain to get and keep a patient in the real Fowler position. If the patient is very weak after th operation, and ofttimes they are, we can have them at first in almost a prone position; as they revive and react we can gradually elevate the body with very little or no disturbance until very soon we can have them in a sitting posture.

Coupled with the described position we always adopt the Murphy method of supplying water to the system. We do not use the normal salt solution but plain tap water which we think is better. The patint receives nothing in the form of nourishment from three to five days, but plenty of water by the mouth.

As to drugs. We rarely give drugs of any kind save morphia hypodermically to relieve pain, and to keep them quiet. We administer Tetanus antitoxin in all cases of Gun Shot wounds.

In conclusion I desire to report six consecutive cases of penetrating, perforating gun shot wounds of the abdomen, with one death and five recoveries. Two of our cases were wounded with shot guns; four with revolvers, three with 38 calibre; one with 32 calibre. Two of these cases necessitated resection of the small intestines, ten

inches in one, six inches in the other. It is good surgery to always resect the intestines when indicated rather than encroach too much on the lumen of the gut, where we have many perforations near each other. One of the cases that required resection was wounded with a shot gun, the other with a 38 calibre revolver. One case was a gun shot wound of the liver. In two cases both large and small intestines were perforated. Two cases were wounds of the upper abdomen, four cases in the lower, The case that we lost had one perforation of the small intestines. This being in the Duodenum, the ball cut one wall of the gut and passed through both walls of the Inferior Vena Cava. The patient lived twelve hours and died of hemorrhage.

REPORT OF FORTY-SIX CASES OF INTUBATION*

By E. W. Carpenter, M. D., Greenville, S. C.

THERE are certain conditions of laryngeal obstruction where the advantages of intubation or tracheotomy must be weighed, but in laryngeal diptheria intubation is by far the operation of choice in the hands of an expert. It is one of the most difficult operations in surgery and requires a maximum amount of manual dexterity to be performed with gentleness. One cannot become expert with cadaver and theoretical experience alone. Unless the operation is done quickly and gently it becomes one of the most brutal in surgery.

It's advantages are: (1) It can be rapidly performed. (2) It requires no anesthetic. (3) The parents' consent is readily procured. (4) Respiration is continued through natural channels. (5) Dangers of aspiration pneumonia and infection are reduced to a minimum. (6) No after treatment is necessary. (7) I believe the pressure of a properly fitted hard rubber tube seldom causesulceration and acts beneficially on the sub-glottic hyperplasia, which is present in many cases of laryngeal diphtheria.

Intubation should not be attempted by an inexperienced operator, the traumatism caused by repeated attempts to introduce the tube prolongs materially the retention of the tube. I do not believe that all chronic tube cases following diphtheria are based on traumatism, but I do believe that many of them are.

Indications for Intubation.—There are signals of danger and distress which should never be passed unheeded and which once recognized render the operation imperative. When the voice becomes toneless, and whispering and cough suppressed; when in addition, the dyspnoea becomes urgent, and the loud stridor of croup is heard both during inspiration and expiration; when there is marked recession at the base of the sternum and above the clavicles; and when all these symptoms cannot be relieved by emetics, it is certainly time to operate.

While we are not justified in waiting longer after these symptoms have appeared, it is even better when possible to operate earlier.

In infants and young and feeble subjects, the dyspnoea may not be sufficient to give rise to marked cyanosis or alarming symptoms of suffocation, nevertheless it may be sufficient to cause dangerous or even fatal exhaustion. In these cases it is our plain duty to operate earlier than when the patients are older, more rugged and more able to stand the exhaustion caused by difficult respiration.

Disadvantages of Intubation.—(1)

*Read at meeting of South Carolina Medical Association, Greenwood, S. C., April 22, 1915.

An English writer, St. Clair Thompson, says that 25 per cent. of intubations are followed by secondary tracheotomy. I do not believe that this is the experience of American operators.

(2) Forcing of the membrane into the trachea; this occurs very seldom.

(3) The tube may become blocked, but in my whole experience this has never happened.

(4) It may be coughed out, while I have had this occur several times, in but one instance did it need replacing. These were all acute cases.

(5) It may slip into the trachea.

(6) The tube may create a condition which demands its retention. Viz: Adductor spasm.

Complications of Intubation. — In acute non traumatic laryngeal obstruction of children, the most frequent complications are: (1) A pin hole aperture through the cricoid region caused by extensive swelling. (2) Detached membrane in glottis or sub-glottic area. (3) Low tracheal membrane. The last condition can be overcome by a method of direct intubation recently perfected by Dr. Lownes Lynah of New York City. The laryngeal angle not being a factor a tube of sufficient length to reach below the obstruction can be as easily introduced as a short one.

Consideration of Tracheotomy.—(1) It should be the operation of choice with those inexperienced with intubation. (2) It should not be done as a last resort, but without hurry and anxiety while the patient is in good condition. The technique is simple, a sharp pocket knife or razor blade and a couple of hair pin retractors will answer as instruments in an emergency. (3) The dangers of sepsis and pneumonia are infinitely greater. (4) The larynx gets complete rest. (5) It is safer in sloughing conditions of the laryngo-pharynx. (6) It is an operation for institutions where thorough asepsis can be carried out.

The tracheal trocar and canula is dangerous and will not be discussed here.

Non-Instrumental Measures.—They are not worth considering once respiratory stridor, tracheal tug, or the accessory muscles of respiration are kept continuously in action, under such conditions emetics are positively harmful.

In institutional work we are justified in waiting longer before applying surgical means than we are in private practice. The great danger in these cases is in permitting the heart to become overtaxed by lack of oxygen and labored respiration, when a trifling exertion of the part of these little patients causes their lights to go out.

Position.—I wish to register my protest against the sitting in favor of the prone position for intubation. My first two deaths were caused by fright and delay while trying to use the sitting position. In the first case an ignorant but well-meaning father released his child and in a few seconds it was dead. In the second death a seven year old boy resisted so violently that his heart failed. With a child prone on the edge of a bed it is not excited nor handled and everything is gotten ready, two assistants, usually the grandmother and the family doctor are instructed, one to kneel by the bedside and hold the child's hands and knees, the other to steady its head and mouth gag as soon it is slipped into place, and before the little patient knows anything unusual is to take place the tube is in position.

Prolonged Cases.—In this series of forty-six cases there are sixteen prolonged ones (more than one intubation) numbering from 2 to 6 re-intubations. In these acute and sub-acute cases I believe the causes of this condition are:

(1) Adductor spasm. (2) Hyperplastic infiltration. (3) Vaso-Motor paralysis due to the pressure of the tube.

Just a word in defense of my habit of leaving the ligature lopped over the ear and held down to the cheek by a strip of adhesive in cases remote from assistance: (1) It prevents swallowing the tube if coughed out. (2) If coughed out it is known to all. (3) It prevents the tube from slipping down the trachea. (4) In cases of occulsion, extubation can be instantly performed by any untrained assistant. (5) Fright avoided at extubation. Unless the child is old enough to understand and to be trusted it should always wear a short paste board splint over the elbows.

Removal of the Tube.—The first extubation is usually advised on the 3rd or 4th day. My experience shows that in those cases where it was done on the 4th or 5th days fewer required re-intubation. There is always a period of anxiety following the first extubation. I make it a rule to wait an hour and if there is increasing dyspnoea or frequent spasms I re-intubate. It does not pay to leave these little patients miles away in a doubtful condition, when they need help it must be forthcoming at once. If indications for the continued use of the tube are not apparent in one hour the large majority will not need it at all.

Management After Intubation.—Infants and children who have endured the intense efforts of obstructed respiration for even a short time have performed prodigious labor and are so exhausted that they go to sleep immediately after the tube gives free breathing space. This period of deep relaxation often glides into a condition of eternal sleep from pure cardiac weakness. It is at this time that they must be carefully watched and judiciously stimulated. Two of the cases in this series in the language of the family "just slept themselves away." I have found no stimulant as beneficial as alcohol in the form of brandy, the greater the degree of sepsis, the larger the dose.

Diagnosis.—Nearly all the cases I have seen were emergencies and some of them across country 50 miles distant, and seen only at the time of the intubation and extubation.

To take cultures under these circumstances is not very practical and yet an ultimate scientific diagnosis rests on a positive culture. For clinical purposes a diagnosis of laryngeal diphtheria in children is justified where stenosis has been gradual, constant and increasing for several hours even without adequate evidence of its causation in the pharynx or larynx. The visibility of a membrane is not necessary, in many of the primary cases I have seen no evidence of it under direct inspection, though it may have been present in the sub-glottic area, where it is inadvisable to investigate when an infant is already cyanotic.

Differential Diagnosis.—The conditions most likely to be confounded with laryngeal diptheria are: (1) Edema of the larynx (2) Retro pharyngeal abscess. (3) Abscess in lateral epiglottic folds. (4) Spasmodic croup. (5) Foreign bodies. (6) Enlarged thymus.

Antitoxin.—I do not give prophylactic doses in private practice, I prefer to watch for the appearance of the disease when a sufficient dose given early just as surely cures. When the disease is primary and intrinsic my experience is that the constitutional symptoms are less profound but larger doses of antitoxin should be given, so that the toxins may be completely neutralized before extension can occur. All cases of this type would probably receive greater benefit by intra venous administration.

Timidity in not using enough antitoxin has caused more deaths than themistake of giving more than is necessary. The only limit to the dose is the result desired.

Date	Name	Age	Consultant	Intubations	Antitoxin	Membrane	Laboratory	Result	Remarks
1 Feb. '08	Ide	6	C. B. Earle	1	10,000	Present	.....	Death	Died before intubated. Struggled, sitting position.
2 Feb. '08	Bowman	2	T. W. Bailey	1	none	Present	.....	Death Recovery	Died while intubating, father released; sitting position.
3 Oct. '09	Vaughn	1	R. E. Houston	2	10,000	Present	.....	Death	Coughed out tube. Memb. on post.
4 Oct. '09	Garren	2	R. E. Houston	1	10,000	Present	.....		surface epiglottis.
5 Sept. '09	Wertz	6	J. B. Earle	3	15,000	Present	.....	Recovery	
6 —— '09	Forrester	2	A. White	1	13,000	Present	.....	Recovery	
7 Sep. '10	Duncan	2	F. G. James	3	18,000	Present	.....	Recovery	Respiration has ceased.
8 Nov. '10	Ray	2	W. T. Brockman	2	10,000	Present	.....	Recovery	
9 Nov. '10	Littlefield	1½	F. G. James	3	10,000	Present	.....	Recovery	
10 Dec. '10	Bailey	3	W. T. Brockman	2	11,000	Present	.....	Recovery	
11	Colored	5	C. Q. West	1	15,000	Not visible	Culture Pos.	Recovery	
12 Nov. '10	Jordan	2½	T. T. Earle	2	22,000	Not visible	Culture Pos.	Recovery	
13 Aug. '10	Gerrard	3	F. Jordan	3	25,000	Present	.....	Recovery	
14 Feb. '11	Merritt	2½	C. C. Jones	2	Not rec.	Not visible	No Culture	Recovery	After second intubation severe pneumonia.
15 Nov. '10	Sams	11mo.	B. Steedley	2	20,000	Present	.....	Recovery	
16 Oct. '12	Dendy	3	J. B. Hill	2	15,000	Not visible	Culture Pos.	Recovery	Two similar cases developed in adjoining houses.
17 Dec. '12	Hudson	4	W. E. White	1	10,000	Not visible	No Culture	Death	Died few hours after intubation. Temp. 106; this may have been anaphylactic or a true toxemia.
18 Dec. '12	Jenkins	2½	A. White	1	10,000	Present	.....	Recovery	Coughed out tube the 6th day.
19 Sep. '12	Richey	3	J. G. Mock	1	15,000	Present	.....	Recovery	
20 Sep. '12	Hellams	4	C. E. Rodgers	2	Not rec.	Not visible	No Culture	Recovery	
21 Sep. '12	Messer	2	H. T. Dacus	1	10,000	Present	.....	Death	Heart's action bad; sat up in bed and fell back dead.
22 Oct. '12	Hunt	1½	B. F. Goodlett	1	10,000	Present	.....	Recovery	Coughed out tube 7th day.

Date	Name	Age	Consultant	Intubations	Antitoxin	Membrane	Laboratory	Result	Remarks
23 Dec. '12	Lawton	1	C. B. Earle	3	15,000	Not visible	No Culture	Recovery	Coughed out tube the last extubation, which was 4th time.
24 Jan. '13	Jenkins	1	J. M. Wallace	2	Not rec.	Not visible	Culture Pos.	Recovery	
25 Oct. '13	Taylor	1½	Y. McDaniels	1	Not rec.	Not visible	No Culture	Death	"Slept itself away."
26 Oct. '13	Childs	4	C. H. Faire	1	15,000	Not visible	Culture Pos.	Recovery	One year later this child died of a similar attack.
27 Dec. '13	Dupre	4	L. L. Richardson	2	11,000	Present	.....	Recovery	
28 Feb. '14	Sullivan	3	A. E. Boyd	1	10,000	Present	.....	Recovery	
29 Feb. '14	Turner	8	C. H. Faire	1	10,000	Not visible	No Culture	Recovery	Coughed out tube, marked inflammation of larynx. Infiltration or ventricles. Diagnosis doubtful.
30 July '13	McHugh	1	J. G. Mock	1	10,000	Present Mouth & Pharynx	.....	Death	Had chronic illeclotis, marked inanition.
31 Oct. '13	Styles	2	H. T. Dacus	1	10,000	Present	.....	Death	
32	Guyton	2	Drs. Parker & Sullivan	1	Not rec.	Present	.....	Recovery	
33 May '14	Parkham	1½	J. B. Hill	1	15,000	Present	.....	Recovery	
34 Oct. '14	Spearman	1½	C. L. Guyton	1	12,000	Present	.....	Recovery	
35 Oct. '14	Rodgers	2	Thomason	1	10,000	Present	.....	Recovery	
36 Oct. '14	Turner	2	Wallace	1	15,000	Present	.....	Death	Cyanosis very slow in clearing up after intu.; suggestion of low tracheal obstruction. Temp. 105.
37 Oct. '14	Farrow	1½	Thomason	1	Not rec.	Not visible	No Culture	Death	Respiration had ceased before intu. Post mortem revealed membrane trachea.
38 Oct. '14	Williams	3	Campbell, S. D.	1	15,000	Not visible	Culture Pos.	Recovery	
39 Oct. '14	Donnald	2	J. G. Mock	1	15,000	Present	.....	Recovery	
40 Oct. '14	Duncan	3	B. F. Goodlett	2	12,000	Present	.....	Recovery	
41 Sep. '14	Bradley	2	C. H. Faire	6	Not rec.	Present	.....	Death	Inanition, left hemiphlegia, pneumonia, the only chronic case in series.

Date	Name	Age	Consultant	Intubations	Antitoxin	Membrane	Laboratory	Result	Remarks
42 Nov. '14	Knight		Thomason	2		Present	.....	Recovery	
43 Nov. '14	Henderson	4	J. B. Duckett	2	20,000	Present	.....	Recovery	
44 Dec. '14	Stone	3	R. E. Houston	2	10,000	Not visible	Culture Neg.	Recovery	Complicated with lobar pneumonia, whooping cough and acute nephritis.
45 Dec. '14	Campbell	1	C. O. Bates	1	15,000	Not visible	Culture Pos.	Death	Intense toxemia and chronic cyanosis.
46 Jan. '15	Duckett	2	R. E. Houston	1	10,000	Not visible	Culture Pos.	Recovery	Sick one week with catarrhal symptoms throat, had been inspected several times.

Deaths, 11, 26 per cent.
One from accident, coughed out tube—Case 4.
One was moribund and hopeless before intubation—Case 37.
Two died from violent struggling before intubation—Cases 1 and 2.
Two died a few hours after intubation with hyperpyrexia—Cases 17. 36.
One died from cardiac failure—Case 21.
Two died because of chronic disease—Cases 30 and 41.
Two died from neglect, careful nursing would have altered result.
Sixteen cases membrane not visible; nine of these had culture made.
Eight cases culture reported positive, the one reported negative was diagnosed edema of the larynx and the culture made as a precaution.

DISCUSSION:

Dr. F. A. Coward, Columbia.

Mr. President, I would like to suggest and stress once more the point I made this morning in my paper: as to the falliblity of the negative culture test for diphtheria, for the reasons which I explained this morning. Diphtheria is being spread by people who have been given antitoxin and clinically cured of the disease, and yet who still have the bacilli in their throats, and a careful man does have his culture made, and while, in the majority of cases the results from that can be relied upon, I know it is a fact in many of those cases which are diphtheria, where the swab is taken in the ordinary way, we will get in the laboratory negative results, and yet, to our humiliation, or whatever you wish to say, when the man is well, then you find his throat loaded with bacilli, and I think that is much more important that the usual routine be carefully observed.

Dr. Henry Hoelbeck, Columbia.

Just a word in regard to intubation. I did not have the pleasure of hearing Dr. Carpenter's paper. We had a case of intubation at the Columbia Hospital last month. This little child was brought with a diagnosis of bronchial pneumonia and the diagnosis proved that it was diphtheria. An intubation was done which relieved the child completely. At the end of five hours the tube was coughed out.. I went out immediately and the child was breathing very badly and I inserted the tube again, this time with very little relief. The tube stayed in awhile and the breathing seemed to be very labored and we took the tube out and the child came very near expiring, and we did a tracheotomy on the child and put the tube in, which stayed in about ten days. The child made a complete recovery, and in line with Dr. Coward's remarks we made frequent attempts to get a culture from that child, all of which proved negative until about three days before the tube was taken out, when it became very abundant. A swab was passed down to the larynx —at least, the cords—and swabbed around there and culture made with absolutely negative results, but this little fellow made an absolutely uneventful recovery.

Dr. J. LaBruce Ward, Columbia.

I would like to ask a question: Dr. Carpenter made the statement that 16 out of 64 cases needed re-intubation; some more than once. The record of the Health Department Hospitals of New York will show that the percentage of re-intubation is much smaller than that; not more than 8 or 10 per cent. I thought it was possible that the difference was due to the fact that the dose of antitoxin administered was not large enough, and therefore, the re-intubation was necessary in a larger number of Dr. Carpenter's cases than in New York.

Dr. J. W. Jervey, Greenville.

I regret very much, Mr. Chairman, that I was not present at the time Dr. Carpenter read his paper. I only got here when he was finishing. I therefore find that I am entirely unable to discuss the contents of his paper, so that I can only discuss briefly the title of it.

I want to say at the outset that I do not make the slightest question that Dr. Carpenter has intubated 46 cases. That goes without saying, but I do mean to controvert the conclusions which we would necessarily accept from his paper in regard to the actual

number of intubations which he has done for laryngeal diphtheria. My point is simply that all of those cases of intubation could not have been done for laryngeal diphtheria, and I am going to try to prove that by a few words. It is commonly accepted that the incidence of laryngeal diphtheria in the present day of antitoxin is, at outside figuring, approximately 10 per cent. of all cases. Of all the cases of diphtheria which occur, in which the laryngeal structures are involved, not over 25 per cent. are cases which are eligible for intubation. Therefore, if, in the practice of one man, 46 cases of intubation have been done, there have been, to start with, 10 times that many cases of diphtheria, which have occurred in that locality, namely, 450, and if only 25 per cent. of laryngeal involved are intubated, then there are, approximately, 1800 cases of diphtheria that have occurred in this particular locality. Now, let us bear in mind that this is the experience of one man. We have, doing special work in that particular section of the state, six individuals. One of us has been thrown in contact with 1800 cases of diphtheria; let us suppose for liberality's sake that this physician has twice as much experience as the average of the other five; then we have got to multiply 1800 by 3, and we have a result of 5400 cases of diphtheria which have occurred in this immediate section in a comparatively short time. I think it goes without saying if 5400 cases had occurred that the common people would have landed on the medical profession to know why we had not done something to eradicate this scourge. Further more, had such an incidence of diphtheria actually occurred, it would be a sad commentary on the skill and knowledge of the profession of this district.

Now, Mr. Chairman, I want to congratulate Dr. Carpenter on his large experience, and regret that the expiration of the time limit prevents my speaking further on this most interesting report.

Dr. E. W. Carpenter, Greenville.

In Dr. Jervey's attempt to discuss my paper, he stated that he would discuss the title, as he did not hear the paper. He launched into a statistical discussion of diphtheria, thereby losing sight of the real subject, which is intubation.

I am glad that he is impressed with the necessarily large number of cases of diphtheria, which must exist when so large a number of the laryngeal type come under one man's observation. The fallacy in the speaker's argument is that he proceeds on the premise that all of the laryngologists in his community have seen an equal number of cases.

I agree with the speaker that there are a very large number of unrecognized cases of diphtheria and trust that he will profit by this observation in the future.

The cases which I report cover a large portion of the state. They embrace the counties of Pickens, Oconee, Anderson, Greenville, Laurens and Spartanburg.

My impression is that our board of health furnished me with the statement that for a part of last year 2600 cases had been reported.

In regard to accuracy of diagnosis, 30 of these cases had a membrane. When one has had a fairly large experience he does not hesitate to treat these cases as clinical diphtheria. In the 16 cases without a visible membrane 9 were submitted to the laboratory and 8 were reported positive for Klebs-Loffler.

In repuly to Dr. Ward's question about re-intubation, perhaps he is cor-

rect in advising larger doses of Antitoxin.

COUNTY HOSPITAL FOR MARLBORO.

By Charles R. May, M. D.,
Bennettsville, S. C.

IT is an interesting fact that the hospital movement in Marlboro County, first originated in the minds of two of our fellow citizens, the Hon. J. W. LeGrand, our representative and Mr. R. K. Breeden, who was at that time the foreman of our grand jury. Neither of these gentlemen knew that the other had thought of it, but the idea originated in the mind of each independently after reading an article printed in the September number of Worlds Work Magazine, by Walter A. Dyer, which tells how "an Iowa physician with a personal realization of a vital need, started a big movement that found expression in a new law," and the first two public hospitals in rural counties." The article was well written and tells how "in 1909 Dr. Munger, of Iowa, conceived an idea that there should be developed a public hospital system, somewhat like the public school system, and that our National Health should be made an ever increasing asset He wanted a public hospital in every county in Iowa, in counties not including a City Hospital, and proposed a public hospital to be supported by a county tax and controlled by an elected Board of Trustees. I will not quote further from Dr. Dyer's article, except to give his description of The Washington County Hospital in Iowa. The first one built under the Munger Law." After the hard fight of Dr. Munger and his associates, his own county (Clay), rejected the opportunity, but their work was not in vain, because two of the older counties, Washington and Jefferson, voted YES, and erected the first two hospitals in America that are open to all patients and to all legally qualified Practitioners of Medicine.

A plat of eleven acres was presented to the county by Mr. and Mrs. Wells, of Washington City, and owing to the generosity of the churches, clubs, lodges, and individuals in furnishing rooms, the board was able to spend the entire appropriation of $30,000.00 in construction work. The hospital is 80 x 40 feet, built of re-inforced concrete brick and stone and is absolutely fire proof. It has a basement and three stories, with nineteen private and two, five bed rooms, accommodating twenty-nine patients. The building is designed to furnish sunlight and adequate ventilation in every room. Each room has telephone and electric fan connections, and an indirect lighting system is used throughout. The floors are of "Terrazzo" and easily cleaned. Large light operating, maternity and sterilizing rooms are located on the third floor, equipped with the most serviceable appliances, including X-Ray machine. On the first floor is the Clinical laboratory and drug room. Kitchen and storage rooms are in the basement, presided over by a graduate in Domestic Science. There is also an elevator shaft in which an elevator is soon to be installed. Of the eleven acres of ground, two acres are in garden, which supplies the hospital with fresh vegetables. A Woman's Auxilliarly Society was organized and proved most efficient in furnishing supplies and it now has one hundred and ninety-six members. A nurses' training school is conducted in connection with the hospital. The three year course of instruction is considerably in excess of the re-

Read before the Marlboro County Medical Society, December 2nd, 1915.

quirements of The State Board of Health. Lectures and demonstrations are given by the nursing staff and the physicians from September till June. The regular staff consists of the Superintendent and two graduate nurses. The first year, one hundred and thirty-one patients and nine infants were cared for, at a total cost of $8,700.00 to county. The second year, two hundred and fifty-six patients and nineteen infants at the same expense, and in two and one-half years, the total had grown to five hundred and twenty-six patients. The first year the deficit was $3,920.00. The second year it was $1,-557.00, and they think in a year or two, it may become self-supporting.

I think the description of the first hospital is very interesting and Jefferson County hospital is equally as successful, and the idea is spreading. Indiana, Kansas, Texas and North Carolina, have all passed county hospital laws. South Dakota, and one or two other states are planning to take early action. At Columbus, Indiana, they are planning to build a $100,000.00 hospital.

We are sending out of Marlboro County every year many patients to the various hospitals, and thousands of dollars are expended by them for surgical operations, treatment and diagnostic methods, which should and could be kept at home, if we had a well equipped public hospital. This hospital would give the people all the advantages they have had to leave home at great expense to obtain, and our poor sick and afflicted could be cared for here among their relations, friends and well wishers, at less than half the cost. The need of the hospital has become so great in the county, that the movement to commence the work comes from outside the profession. We have tried to interest the citizens of Bennettsville in a hospital, and failed, not because we do not need it, but because we could not show that it would be profitable or even self-supporting. The fact is, that as a rule, public hospitals are not self-supporting and are not a money-making investment and that is why there are so few hospital beds in proportion to the population in the state of South Carolina. The population of South Carolina last census, was about 1,515,400, and it was estimated in 1912 that there were only twenty-eight hospitals and about 1,668 beds, and there should be one hospital bed to every one hundred in population. Marlboro County has about thirty-five thousand inhabitants, and there is, as far as I know, not a single hospital bed in the county. We should build a hospital that all of our people would be justly proud of, where our sick can be cared for to the very best advantage. It should be modern, well equipped and up-to-date, with a pathological and bacteriological laboratory, X-Ray laboratory, training school for nurses, ambulance service, etc., one that every tax-payer in the county can point to with pride and the conscious knowledge that he has helped build and maintain it. Such an institution would not only give our people these advantages, but would give our philanthropic and generous citizens an opportunity to endow, bequeath or donate money to help the poor and sick, and perpetuate the memory of their generous kindness and the lasting gain of the ones who need it most. Such an institution would also make us better and more capable physicians, because we can then have the use of this necessary equipment of modern methods to aid in our work and study. The people of every community look on their Doctor as being true and sincere. Always willing to sacrifice self and selfish desires, for the good of humanity, so let us endorse this great work that has been begun and do every thing in

our power to back them up and help them to build a hospital in Marlboro County. There is not a physician in the county that does not live near enough to personally attend any patient that he might have in hospital, and I feel sure that every one present will endorse this good work, and I am confident if we support this movement and do all in our power to help them impress the voters, that they will succeed, because it affects all of our people and will be the means of safeguarding the health which is the most precious of earthly possessions. We do not mind being taxed to prevent disease among out cattle or crops, or for the school system and if we could have the privilege of voting a small tax for the means of taking care of our health at half the usual cost and the annual saving of many lives, I am sure we would vote YES and secure it. The ladies, who in our county are always found at the front, working for the right and advancement of our community, have already begun to work for this hospital. Their Federated County Clubs, have, I understand, already begun work saving money for this cause. Now with our churches, clubs, lodges and organizations working altogether for the same purpose, how can we fail? So let us pull together and secure the hospital, which will be conducted on a strictly ethical basis and as Dr. Munger says, "be made a health center, from which health information will be disseminated by both precept and example. He asks what is America's health problem? and answers: To prevent preventable disease, cure curable disease, relieve suffering and prolong life."

THE IMPORTANCE OF DIFFERENTIAL DIAGNOSIS OF ABDOMINAL AND LUMBAR PAINS IN WOMEN.

By C. W. Barron, M. D., Columbia, S. C.

THE purpose of this paper is best fulfilled by the recitation of the history, treatment, and results of treatment in a few selected cases. Each one of you can recall some case of identical or similar nature from your own experience. My object in presenting this subject is to obtain for suffering women a deep, thoughtful, and scientific study of each individual before resorting to treatment of any kind, except of course, palliative treatment when indicated.

Case I. Un-married woman, age 25, family history, negative. Personal history, when five years old had serious illness, probably typhoid fever; suffered with some digestive disorder most of her life since. Began to menstruate between 12 and 13 years old, and very regular for several years. When about 15 or 16 she had a severe fall while horse-back riding. Began to suffer with menstrual pains when 17 or 18 years old and condition grew gradually worse. Her digestive disturbance and general nervous condition grew worse, though constantly under treatment until she was 21 years old. She was then advised to see a surgeon who did a D. & C. uterus suspension, and removal of the appendix. After this there was some improvement, but her abdominal pains and lumbar pains grew worse until she was unable to lift objects of even the lightest weight. She had great difficulty in ascending the staircase. In my examination of her, I found vagina, uterus, tubes, ovaries

Read before the South Medical Association, Greenwood, S. C., April 21, 1915.

and rectum, normal, except that the coccyx was very freely moveable. There was no evidence that she had ever suffered from any inflammatory process in the pelvis. Lungs, kidneys, and heart were normal. She was examined for malaria, hook worm and tuberculosis, negative findings. I then advised an X-Ray of the boney structure of the pelvis, which was done by Dr. Robt. W. Gibbes, and his report was "Sub-luxation, Sacro-Illiac Articulation." The treatment will be described with that of Cases Nos. II. and III.

Case No. II. Married woman, 30 years old, weight 126 pounds, well nourished, apparently perfectly normal, except that a tremor of her hands and fingers was quite noticeable. She complained that she was unable to do any household work. She was in constant fear that some serious accident would befall her. She could not sleep without some soporific drug. She had been married six years, and since six months after the birth of her first child she suffered with pains in the lower part of her abdomen and back. Since the birth of her second child, the abdominal and lumbar pains have constantly grown worse, and for nearly two years she has had to give up work of all kinds. Two weeks before her menstruation, the pains in her back and abdomen grew worse, and she was compelled to spend the first day of her menstrual period in bed. She was told that her trouble was chronic appendicitis and retroversion of the uterus. One year prior to her coming to me, her appendix was removed and the uterus suspended. She experienced no relief of any of her symptoms. Her own history is negative, except for the fact that her first labor was a very severe one—the child delivered with forceps. A thorough examination revealed no evidence of any pathologic condition of the pelvic vicera. However, the pain elicited on pressure over the sacrum and lifting of the leg while in extended position, with patient lying on her belly, increased, and she complained of pain being reflected to the pelvic region. An X-Ray picture by Dr. Robt. W. Gibbes showed "Sub-luxation Sacro Illiac Articulation."

Case No. III. History as furnished by Dr. R. R. Walker, Laurens, S. C., who referred the case to me:

"Father, age 70, health good. No history of T. B. Specific history, none. Mother, age 65, health good, no history T. B. Patient has had asthma all her life. Married Dec. 22nd, 1912. Miscarried March 20th, 1913. After that, for several weeks had some sciatic pains, which cleared up with usual treatment. On Oct. 20th, 1913 she became pregnant again. Sciatic pains again started in right hip, radiating downward following course of sciatic nerve about seventh month of pregnancy. She began swelling, which kept up until after confinement which was on May 20th, 1914. Normal delivery, child weighing five and one-half pounds. For first month after confinement she did splendid, suffering—no pain. On June 20th, 1914, I was called to see her, and found her suffering from sciatic pains as on Oct. 20th, 1913, during pregnancy. I immediately began usual treatment of Salicylate with Codeine Sulphate for pain and alteratives, which at first seemed to give good results. A few weeks later, pains became more severe; patient grew weak, and treatment gave absolutely no results. I then started daily massage with electric vibrator and stretching of nerves, all of which failed to give any results. I then advised her to go for an X-Ray examination. Accordingly on Dec. 19th, 1914, she went to Columbia for an X-Ray examination."

This case was examined for T. B., for

syphilis, hook-worm and differential blood count was done at the suggestion of Dr. Julius Taylor, whom I called in consultation. The X-Ray picture by Dr. Robt. W. Gibbes revealed the same condition as in cases I. and II. quoted above.

The treatment of these cases consisted of a strong, yet simple leather corset, powerful enough to bind the pelvic structure. A cloth corset or jacket was cut by an expert corsetier, and made to fit the hips closely, and from this pattern a leather corset was made. Into this corset was placed strong strips of steel at an angle of 25 degrees, to the medium line of the body, these strips being made to lie over the sacro illiac articulation. The relief experienced by these cases would be confirmation enough for the diagnosis, if we did not have the evidence of a competent Rontgenographer.

In Case No. I. it has been impossible for me to learn if the surgeon found any pathologic condition in the pelvis, and I have only the patient's statement that her pains were worse after the operation.

In case II., the statement was made by the patient's husband that no diseased condition was found, and that she suffered more after her operation than she did prior to it.

Whatever one's belief as to the existence of such a condition as "Subluxation of the Sacro Illiac Articulation," it seems to me that it is worth while to exclude it when making a diagnosis in diseases of the pelvis or lower abdominal viscera.

It is not possible, nor was it my purpose in presenting this paper to attempt to point to a method of differentiation of abdominal and lumbar pains. Such method would fill volumes, and must cover the experience of years. However, I do feel that these cases sufficiently emphasize the importance of great care when making a diagnosis in women who claim that they are suffering from some disease of the pelvic structures.

DISCUSSION:

Dr. J. H. Taylor, Columbia.

Mr. President, I want to speak particularly of my observation in the case of which Dr. Barron speaks. He has presented to us a subject here of really great importance and his paper contains a very serious reflection on the surgical profession in view of the number of appendices that are removed without relief.

The subluxation of the sacro-iliac joint is a purely American disease. Dr. Lovett, one of the foremost orthopedic surgeons of the world, scoffs at the idea of sub-luxation of a joint, which is so firmly bound together that many authorities claim you cannot have, but you necessarily have, a fracture, if you have a subluxation there. That was the attitude we had come to; but this paper of Dr. Barron's pretty nearly upsets all of our ideas about the conditions. The woman, when examined, was in bed, unable to turn over on account of pain in the sacro-iliac region. To lift her over in bed, by two of us, gave her excruciating agony. She certainly gave a classical picture. I don't take the say-so of any one of what they see in a classical picture. If you have a picture taken absolutely mathematically straight through and where your ileum and sacrum come together on either side is perfectly level, well and good; but if you get it at an angle you are going to have some difference in your shadows. The man who wants to see the sprain sees the sprain, and there is a sprain to him. As brought out yesterday, there are no two pelvices perfectly normal. When we saw the X-Ray pic-

ture we told Dr. Barron it looked like a tumor of the bone. We thought it was a sarcoma. Dr. Barron strapped that case up in his accustomed way, and the next day I happened to be going by Dr. Gibbes' office and an automobile drove up and in it was seated this lady and her doctor, and I was astounded. I asked her how she was feeling and she said all right; and did she get immediate relief when that sub-luxation was strapped up, and she said yes.

Dr. W. A. Boyd, Columbia.

The subject of Dr. Barron's paper is exceedingly interesting. I do not wish the members of the Association to say I do not believe there is any such condition as sacro-iliac sub-luxation, because I have no doubt there are cases of that kind, but from my own observation, particularly of the last few months when I have seen so many cases shown and diagnosed as sacro-iliac luxation and sub-luxation, that I have almost come to the conclusion that a large number of the profession are using that term now, as sometime ago a lot of alienists used the term "brain-storm"—a term to cover up any condition present that they did not understand.

I do not see how we can have so many of these cases, resulting from such trivial things and in which the cases cleared up under such treatment. I am certain when we have a real case of sacro-iliac luxation and a properly fitted corset or support, such as Dr. Barron mentioned, that we might be expected to get some relief; but I cannot see how a woman suffering with sub-luxation of the sacro-iliac joint can be permanently cured by a few straps of adhesive plaster or an ordinary corset bandage placed around the hips. Again, I have seen men claiming a sub-luxation on the part of a corporation, and I have noticed those men limping along the streets until that trial came off, and just as soon as that verdict was rendered by the jury that this corporation should separate themselves from a certain amount of their money and give it to this man, just so soon was this man able to take his place among the citizens of the town. Occasionally an honest jurist and one not prejudiced against corporations, has declared that the man had no cause of action and when there was no money coming, the man got well.

Dr. G. A. Neuffer, Abbeville.

I want to tell you of a case that occurred in my own practice, which illustrates the usefulness of X-Ray and also illustrates the usefulness of a jury, sometimes. I had a lady patient who presented nearly all the symptoms Dr. Barron has enumerated, and I treated her for these conditions without benefitting her. She got into the hands of the surgeons and she had her appendix removed by one, and her ovaries by another, and after that, when she came to my office, I listened to her tale of woe and put her down as a neurotic. Finally, last December, while riding in a wagon she was thrown from that wagon as she claimed—by a hole in the street of the town in which she lived. She stayed in a while and then brought suit for damages. I could not find anything about her except what I had found before: the same kind of back-ache, pains, and so on; so she went to Columbia—her own idea—to have Dr. Gibbes make an X-Ray, which he did, and he wrote me a letter, saying the only thing he could find wrong was a sacro-iliac separation, but it was the same sub-luxation you gentlemen are talking about, but that he could not

tell what caused it, nor how long it had been there, but it was what she was suffering with; so on the strength of this letter and all these aches and pains she went to court, and the lawyers on the other side brought out the fact that she had nothing but these aches and pains she had been suffering with before. The jury found for the defendant.

Dr. J. W. Jervey, Greenville.

Mr. Chairman, it is a little out of place, perhaps, for me to discuss a case of this character, but I want to draw attention to one particular point. Numbers of them are the result of railroad injuries, perhaps, and there is a great tendency for our friends, the lawyers, to make the best showing that they possibly can in these cases, by means of all sorts. Speaking mostly from the experience of one case of sacro-iliac joint sub-luxation: The attorney for the plaintiff went to work to have a number of X-Ray plates made, and it was apparent in all of these plates that the X-Ray exposure was made from an improper angle, and the conclusion which could readily be foisted upon a jury as being proper, reasonable and right after the exhibition of the X-Ray picture. To any one who knew anything about X-Ray pictures, it was apparent that the exposures had been made from improper angles, and I think the profession should realize, no matter what the judge or jury or any one else may say, it is not the proper thing for an attorney to offer in evidence X-Ray plates to bear out a diagnosis. In other words, the interpretation of an X-Ray plate is not only beyond the minds of an ordinary layman, but beyond the minds of 95 or 99 per cent. of those who are in the practice of medicine.

Dr. Barron Closes.

Mr. President and gentlemen: I hold with Dr. Taylor, with Dr. Boyd, and with Dr. Jervey that the proper interpretation of the X-Ray picture belongs to that one per cent. of men who know it. I was offering the evidence of the man in my town whom I considered competent to interpret an X-Ray picture. I could not base a diagnosis of these cases solely on that interpretation, nor could I base a correct diagnosis on the simple fact that these people got relief from the strapping of the pelvic structure. Cabot tells us in nearly all neurasthenic women with back and abdominal pains that there is considerable relief from the light strapping of the hips. We fit them with corsets and relieve them of intestinal indigestion or disorders by the strapping and binding of their abdominal viscera.

In the point made by Dr. Boyd that these cases possibly could be misinterpreted; that there are cases like Dr. Neuffer's of some one trying to recover damages; I might have considered that. These people might have recovered damages from their surgeon. I have but one object in the paper, and that is to attract to your attention this subject, and you will agree with me that too often we do advise women to have a hysterectomy, salingectomy or some other extensive operation that leaves her a wreck for years to come, when with a right study of the case that woman might be well with a decent fitting corset.

SOCIETY REPORTS

ANDERSON.

The first November meeting of the Anderson County Medical Society was held at the Hospital Wednesday, November 3, at 12 o'clock with an attendance of fifteen members.

Pres. B. A. Henry presided over the meeting. After the reading and adoption of the minutes of the last meeting, Dr. C. F. Ross, chairman of committee, reported that a padded cell was to be installed in the county jail for the benefit of insane patients who at times are placed here until arrangements can be made for taking them to Columbia.

Application of Dr. W. T. Martin, of Pelzer, for membership was made and his name was turned over to the Censors.

Letter from Dr. Oscar Dowling relative to the harmful proprietary preparation of drugs was read and the resolutions he wished our Society could see fit to adopt were presented and were readily adopted.

There being no further business to come before the Society the following scientific program was entered into:

1. Functional Capacity of the Kidneys by .....Dr. C. F. Ross
2. Reports of Interesting Kidney Cases by ..... Drs. Ashmore and Young

This paper and these cases were generally discussed by those present.

The mid-November meeting was held November 24, with twenty-three members present, and two guests, Drs. C. B. Earle, our councilor, and T. W. R. Wilson, of Greenville. We were especially glad to welcome these.

Dr. W. T. Martin was unanimously elected to membership in the Society.

The following scientific program was carried out:

1. Diagnosis and Treatment of Cholecystitis ..... by Dr. C. B. Earle
2. Suggestions for the Improvement of the Anderson County Medical Society and Hospital in 1916..... .....by Dr. E. A. Hines.
3. Blood Vessel Surgery—Demonstration of Technique Dr. H. H. Harris.
4. Clinical Cases Presented:
   1. An Interesting Case of Amoebic Abscess ....by Dr. J. R. Young.
   2. Case of Osteitis Deformans—A Very Unusual Condition ....Dr. J. C. Harris.

All of these papers and cases were discussed by Drs. Rose, Wilson, Young, and Harris.

Upon discussion of Dr. Hines' paper it was moved, seconded and carried that a committee be appointed to study this paper carefully and see what could be done along lines suggested for the betterment of our Society. The following committee was appointed: Drs. Ross, Young, and J. O. Sanders.

Olga V. Pruitt,
Secretary.

ANDERSON.

The December meeting of the Anderson County Medical Society was held at the Hospital, Wednesday, December 8, at 12 o'clock. Fourteen members were present. Dr. M. H. Wyman of Columbia was a guest.

The principal business at this meeting was the election of officers for another year. The annual report of the Secretary and Treasurer was made. We are glad to find that the past year was the best we have ever had

from a scientific standpoint—more papers were read by members of the Society and more were given by visitors than during any other year. Our average attendance during the year was good.

Our retiring president, Dr. B. A. Henry, made an excellent address. This was a brief resume of his year's work, also he urged upon every member the great importance of his belonging to his County Medical Society where he could meet with his fellow-workers and study the great medical problems and prepare himself so he would at all times be able to say: "I gave my patient the best his time afforded."

Election of officers for the New Year resulted as follows:

President—Dr. H. A. Pruitt.

Vice-President—Dr. H. H. Harris.

Sec. & Treas.—Dr. Olga V. Pruitt.

Dr. Wyman gave an excellent talk on genito-urinary work and this was followed later in the afternoon by clinical demonstrations. This was especially interesting to those of our number who are interested in this line of work.

Olga V. Pruitt,
Secretary.

BAMBERG.

The following officers were elected by the Bamberg County Medical Society for the year 1916, at the December meeting held on Wednesday last:

Pres.—Dr. C. B. Ray, Olar, S. C.

Vice-Pres.—Dr. L. A. Hartzog, Olar, S. C.

Sec.-Treas.—Dr. J. S. Matthews, Denmark, S. C.

J. S. Matthews,
Secretary.

CHARLESTON.

The Medical Society of South Carolina held its 126th annual meeting Monday, December 13th, 1915, at 8:30 P. M., at the hall in Roper Hospital. The past year showed an increase in membership and a marked advance in the condition of medical and surgical subjects. The papers being of a more practical and scientific nature. A growth in the spirit of harmony and fellowship during the last year and the greater interest in society matters by old members was among the gratifying advancements. The following officers were elected for the ensuing term. Dr. Lane Mullally, President, Vice-President, Dr. Edward Rutledge, Secretary, Dr. Albert Nathan, Treasurer, Dr. D. L. Maguire, Librarian, Dr. Cain. After the transaction of business the society enjoyed a delightful smoker during which many interesting stories were told.

The Medical Society gave a smoker in honor of Gen. Gorgas on the evening of December 17th, 1915. Dr. Gorgas referred briefly to his childhood recollections of Charleston. He touched upon the work at Panama and paid a splendid tribute to the Southern men engaged in carrying on part of the work at the time. Several interesting talks were given. The affair proving most enjoyable and giving the physicians a chance to meet one of the benefactors of the world.

Albert Nathan,
Secretary.

COLUMBIA MEDICAL SOCIETY.

The Columbia Medical Society met in regular monthly meeting at the Y. M. C. A. Hall, November 8, 1915, with twenty-four members present, as well as one visiting physician and many of the local dentists.

Dr. Tanner who is in Columbia in the interest of the Pellagra investigation at the Epworth Orphanage was voted

the privileges of the floor as well as the visiting dentists.

Our program was of special interest to both dentists and physicians. Dr. HeywardGibbes read an excellent paper entitled "Preventive Medicine as Applied to Chronic Infections." He referred to preventive medicine in contradistinction to curative medicine. Dr. Gibbes stressed the importance of locating the focus, and the diagnostic means of locating such focus of infection in diseases as infective arthritis, infective, endocarditis, etc., the locations usually found to be the tonsils ,teeth, sinuses, appendix, gall-bladder, genito-urinary organs, etc.

Dr. R. W. Gibbes read a paper on "The Value of the X-Ray in the Diagnosis of Focal Infections." He referred particularly to the aid in diagnosing blind dental abscesses, infective thrombi, and infections of the head cavities, etc., warning against the dangers arising from a pivot tooth, or devitalized tooth which possess local abscesses.

Discussion by Dr. Whaley who referred to the sinus infections as middle ear disease, mastoiditis, ethmoiditis, sphenoidal cell infections, etc., and their reluation to systematic disorders. Dr.T. T. Moore, Jr., stated that possibly 75% of devitalized teeth possessed a local infection. Dr. E. J. Quattlebaum believes that by treatment an abscessed tooth may be saved in certain cases, that it is not necesarily a lost tooth in all cases.

In conclusion Dr. Heyward Gibbes stated that the concensus of opinion was in favor of extracting teeth with apical abscesses. Dr. R. W. Gibbes in closing referred to the apical abscess as not producing pain while the peridental did produce pain. Discussion completed by Dr. R. W. Rice and Dr. Quattlebaum.

Edythe Welbourne,
Secretary.

MARLBORO.

The Marlboro County Medical Society met in Bennettsville on Thursday, December 2nd. This meeting was well attended. Dr. C. R. May, the retiring President, read an interesting paper on the "County Hospital Movement." It was passed that Dr. May's paper be published as a preamble to our resolutions.

The resolutions are as follows:

(1). That we have seen the need of a hospital in the county for some time.

(2). That we endorse the movement for a "County Hospital," which Hon. J. W. LeGrand and Mr. R. K. Breeden have started.

(3). That we endorse Hon. J. W. LeGrand's proposed bill which he is to introduce into the legislature at it's next meeting, with the exception that the trustees of the Hospital be recommended by the county representatives and appointed by the Governor.

Committee:
C. R. May, M. D.,
J. L. Jordan, M. D.,
J. A. Faison, M. D.,
D. D. Strauss, M. D.

The following officers were elected for the ensuing year:

President—Dr. J. A. Reese, Tatum.
Vice-President—Dr. A. S. Townsend, Bennettsville.
Sec. & Treas.—Dr. D. D. Strauss (re-elected), Bennettsville.
Delegate—Dr. J. A. Faison, Bennettsville.
Alternate Delegate—Dr. J. A. Hamer, Clio.

The Society decided at this meeting to meet every second month.

D. D. Strauss,
Secretary.

PICKENS.

At the regular meeting of the Pickens County Medical Society, on Decem-

ber 31st, the election of officers resulted as follows:

President—Dr. W. A. Woodruff Cateechee.
Vice-Pres.—Dr. J. O. Rosamond, Easley, R-3.
Sec.-Treas.—Dr. J. L. Bolt, Easley.
Delegates—Drs. J. L. Valley, Pickens 17, A. Woodruff, Cateechee, 16.
Alternates—Drs. W. A. Tripp, Easley, R. 4, 16, J. O. Rosamond, Easley, R. 3, 17.
Member Board of Censors—Dr. L. T. Shirley, Central, 18.

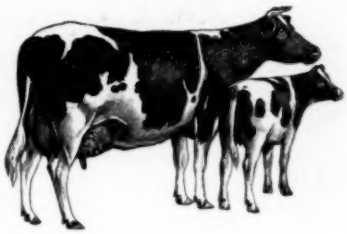
J. L. Bolt,
Secretary.

SPARTANBURG.

The Spartanburg County Medical Society held its regular monthly meeting on December 31st, with a large number of members present. There were no papers as this was the annual meeting for the election of officers. The reports of officers were read and accepted. Dr. Edwards announced the organization of a medical club which was organized for the purpose of study and invited the members of the County Society to join it. The election of officers resulted as follows:

President—Geo. E. Thompson, Inman.
Vice-Pres.—J. F. Williams, Roebuck.
Secretary—L. Rosa H. Gantt, Spartanburg.
Treasurer—W. B. Lancaster, Spartanburg.
Delegate—H. R. Black, Spartanburg.
Censor—W. J. Chapman, Inman.

L. Rosa H. Gantt,



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The Journal OF THE South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.

Annual Subscription, $2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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EYE, EAR, NOSE, AND THROAT.
E. W. CARPENTER, M. D., Greenville, S. C.

EDITORIAL

Good For Hampton.

The Secretary-Treasurer is in receipt of most gratifying news from Hampton. The County Society has just been reorganized on what appears to be a solid foundation and starts off with a degree of enthusiasm which foreshadows a long life of successful endeavor.

Dr. J. L. Folk of Brunson is President and Dr. J. R. Fowler of Luray is Secretary.

State Medical College in Class A.

A telegram from Dr. Robert Wilson, Jr., Dean of the Medical College of the State of South Carolina, announces that our State Medical College has been advanced to Class A. by the Council on Medical Education of the American Medical Association and has been admitted to the Association of American Medical Colleges.

This is most welcome news, not only to the profession in South Carolina, but will be received as such by the profession of the whole South. For the past ten years no section of the entire world has advanced in Medical Education so rapidly as the Southern States.

What it really means to have attained the distinction of placing our college in Class A will never be known except to those who have worked so indefatiguably to this end.

As a people we are never satisfied with anything short of the best that is possible. We have guarded with jealous care the reputation and fame of

the Medical College of the State of South Carolina and have left no stone unturned to place this time-honored institution on the pedestal it now occupies.

In future there will be no reason why any student contemplating a first-class medical education should go out of his native state to secure it. It is advisable for every doctor, after he has received his degree at our State College, to pursue at intervals, post-graduate studies, either in our own great medical centers or abroad, but he is now assured of a well rounded training leading to his degree right here at home and at less expense as a general proposition.

The Journal of the South Carolina Medical Association extends hearty congratulations to the Medical College of the State of South Carolina!

Titles of Papers Wanted.

The scientific committee is now ready to receive titles of papers to be read at the Charleston meeting in April. As a general rule, where possible to do so, those who respond immediately will be accorded more consideration as to position on the program. Again, an early reply to this notice will give the committee an opportunity to arrange symposiums and otherwise dispose of correlated subjects to the best interests of all concerned.

So, doctor, please sit down now and drop a letter to the Secretary, Dr. E. A. Hines, Seneca, expessing your wishes in this matter.

Nation-Wide Baby Week—March 4-11.

We are in receipt of a communication from Dr. Rosa H. Gantt of Spartanburg, Chairman of the Health Department of the Federation Women's Clubs of South Carolina, and also for many years an active worker in Public Health matters for the South Carolina Medical Association, the Southern Medical Association and the American Medical Association, asking our cooperation in making public plans for the Nation-Wide Baby Week.

We are delighted to call especial attention of the profession to this important phase of Public Health work and to request our readers to co-operate in this movement, in their several communities.

Public Health Day—March 3rd.

Governor Manning will issue a proclamation designating March the third as Public Health Day. The State Board of Health, The Federation of Women's Clubs and various other agencies will prepare Public Health programs for this occasion. This opportunity should be embraced by our County Medical Societies to bring before the public various phases of health work, especially present same to our schools and colleges. Most of our schools will be glad to turn the building over to the County Medical Society on March the third for this purpose.

Greenville Society Progressive.

We are delighted to publish, for the first time in a long while, an official report of the doings of the Greenville County Medical Society and to especially commend certain features of the same. The profession of Greenville City and County is of a high order of attainment and the character of the work done there compares favorably with that done anywhere in the South.

Some of the physicians and surgeons of Greenville are known as leaders well beyond the confines of the State and we are not disappointed when they assume this role. We desire to commend the idea, which of course is not new, of carrying the society to other points in the county now and then, instead of meeting at one place

every time. Such a plan may fail to secure a large attendance occasionally but it will increase the interest and enthusiasm of the physicians in the sparsely settled sections of the county. Then to have a Public Health program and invite the laity, not only has a good effect on the doctors of the community, but places the society in a new light before the public, as a great force for the welfare of the citizens.

We note that the society will meet every month instead of every two months. This is another wise move, for it is certainly true that frequent meetings are far more conducive to a live society than just a few each year. Such a course is imperative, so far as the large societies are concerned.

Lastly, we hope for a report of every meeting of the Greenville County Medical Society to be published in the Journal. We are confident that such reports will be read with interest by the workers in society matters, in this and other states.

Tonsils.

Our first impressions are said to be the most lasting. For this reason there always arises from the depths of our memory a very ghastly picture whenever an operation for tonsils and adenoids is suggested. The operation used to be most sanguinary, brutal and revolting when contrasted with the bloodless, quiet and highly technical present-day methods. Evolution has held sway in this field of science and surgery as in all others, whose development has advanced towards the ideal. The first instrument for the operations on tonsils that we recall was a plain McKenzie tonsillotome, the mechanical principal of which is still preserved and is highly useful. The next was an improvement on this by Dr. John Ancrum of Charleston. He added to this a concealed blade with a spear which pierced and fixed the tonsil, thus preventing its loss in the gory ocean which promptly proclaimed a successful and extensive trauma of very slight benefit to the patient. After this first onslaught the fingers supplanted the use of the eyes and a blind and more or less dextrous groping in seas of blood was indulged in in quest of a second tonsil and then the adenoids.

The cyanotic choking, spluttering, struggling patient was turned over on his side to become as rapidly ex-sanguinated as the wounds permitted. Is there any wonder that the operation was not popularized in such an environment? In the light of our present knowledge, we see clearly that in spite of the patient's survival from the operation per se his convalesence was protracted on account of the frequent and extreme anaemia produced.

The infection in the diseased glands was not eradicated but stirred up to commit greater offenses in a less resisting economy. In the light of our present knowledge of focal infection we readily comprehend that the evils present in these diseased organs were rarely removed, on the other hand the heads of the tonsils were more or less completely severed, the wound surface scarred over with the abundant proclivity of the scar tissue to contract, the orifices of crypts were narrowed and often sealed, the wounded and deformed lateral walls of the fauces including the mutilated pillars of the tonsils proceeded to contract, as if in intense desire to override and bury the remains of the injured tonsils. This burying process was often a complete success, so that all the external drainage from the diseased remains was more or less perfectly prevented and the burden of the removal of all offensive products was relegated to the lymphatics of this region with the result that what might have been a local infection most

of the time, became a systemic infection all of the time. Some will say that this picture is over drawn, that many tonsils were completely removed with the old guillotine. To this we accede with the reservation that almost the only ones which are totally removed were those which pedunculated, and projected into the fauces, or whose pillars were not adherent. These constitute the largest group of innocent tonsils from the standpoint of infection, because their drainage is accomplished by the contractions of the constrictor muscles which surround them and squeeze them during every act of swallowing. We know that the submerged, adherent, concealed, undrained tonsil is guilty of the most frequent insult to the economy and this is the type which was mutilated under the above regime.

In recognition of the unsatisfactory results of the above described technique, operators armed themselves with innumerable devices for this operation until punches, knives, separators, scissors, hot and cold snares, various cautery points and a greater variety of guillotine made their appearance, the authors of each loudly proclaiming the superior advantage of their special invention. A period of dissatisfaction and confusion ensued until in the clear light of cause and result there has been evolved and perfected in principle, one method of total removal of tonsils.

(To be continued).

PERSONAL AND NEWS ITEMS

Dr. T. L. W. Bailey, of Clinton, one of the Councillors of the South Carolina Medical Association, has gone to New York for a Post Graduate Course, especially in Diseases of Children. This is Dr. Bailey's fourth time for Post Graduate study.

Dr. M. C. Marett has moved from Seneca to Newry, taking the practice of Dr. B. O. Whitten, who has accepted a position at the Hospital for the Insane, State Park, Columbia.

Dr. J. H. Johns of Westminster, president of the Oconee County Medical Society, has associated himself with Dr. Hardin, a well known surgeon of Atlanta, Ga., for the year 1916.

Dr. Martin H. Crook has recently become a member of the Spartanburg County Medical Society.

Dr. Wm. Lawrence Bailey of Coronaca died after an acute attack of uremia on October 20, 1915. He did an active and a very appreciative practice in his town and was a regular member of the Greenville County Medical Society.

Dr. J. A. Faison of Bennetsville died on Thursday, December 23, 1915. Dr. Faison was a prominent member of numerous Medical Societies including the South Carolina Medical Association.

ORIGINAL ARTICLES

THERAPEUTIC VALUE OF MINERAL WATER.

By F. L. Parker, M. D., Charleston, S. C.

IT is now commonly recognized that many of the physiologic effects claimed for mineral waters cannot be explained by chemical composition, viz., greatly increased diuresis and elimination of uric acid, increased carbonic acid exhalation, lowered blood pressure, decreased blood viscosity, improvement of gastric and duodenal digestion, marked solvent action on gouty deposits, dissociation of uric acid and its salts into carbondioxide and ammonia, inhibition of inflammation and relief of pains in rheumatism, increased sexual vitality, influence upon sympathetic nerve affections, diminished albuminuria and glycosuria, marked effects upon gonorrhoeal arthritis and iritis, activated protolytic and autolytic ferments, and prevention of development of cocci, fermenting bacteria, and sporiferous fungi. All or most of these effects are consequent to the usual so called contributory conditions at springs: change of climate, life and diet, rest, recreation, and freedom from cares and worry, a determination to improve, drinking of water or larger quantities of it, and a properly observed regimen under the directions of a physician; also treatment with various kinds of baths and packs, massage, x-rays and violet rays.

In fact, except in cases in which the water contains enough laxative mineral to constitute a therapeutic dose, are not contributory conditions, the real factors, and the waters the incidental ones? A few waters contain a sufficient quantity of laxative salts for a dose, when drunk in reasonable quantities; practically none enough of other salts to produce a physiological effect. Many of the mineral waters on the market contain no more mineral matter than city supplies, and many are not as concentrated. Yet the most extravagant claims are made of their therapeutic value; and physicians, by giving testimonials, without considering concentration and probable merit, are largely responsible for the faith and confidence of the laity regarding them.

Any water that is advertised, and comes out of a bottle, is considered a mineral water, even if the printed analysis states plainly that the water contains practically no minerals at all. Frequently we find families buying mineral water from a distant spring, when their own well or spring, or city supply, is more highly charged with the desired ingredients.

These facts are well emphasized in a suit of the Federal Government against a well known water company for exploiting the curative effects of a so-called lithium water, which was highly recommended by reputable physicians. It was shown that this water contained only one grain of lithium in 10,000 gallons of water. In order to get the average dose of lithium as uric acid solvent one would have to drink from 150,000 to 200,000 gallons per day.

Within the last decade, it has been discovered that some waters contain niton, helium and neon. The latter two are not known to produce any therapeutic properties. According to

Read at the annual meeting of the South Carolina Medical Association. April 21, 1915, Greenwood, S. C.

Sir William Ramsey its radio activity is 75% of that of radium. Since it decomposes rapidly, losing half its strength in four days, this property has been advanced in explanation of the fact that most mineral waters have little effect, unless taken at the spring.

The supposed curative value of these waters is now attributed by some to the presence of the niton, on account of its marked physiological effects when administered in certain doses. There are perhaps as many advocates of this new theory, as there were of the discarded theories of ionization, and peculiar association of the salts in water.

Again the supporters of this new theory are confronted by the same facts that baffled them in the support of the older theories, and in their endeavor to find an explanation for the claimed therapeutic value of mineral waters, other than the socalled contributory factors, and the marked therapeutic value of water itself.

According to the report of the U. S. Geological Survey, The Production of Mineral Waters in 1913 with a discussion of their Radioactivity, the most powerful water listed contains only a quantity of emanation equivalent to 1 Milligram of radium in 3,800 gallons, and most radioactive waters contain considerably less than this amount.

When we consider that the usual dose of emanation applied to the tissues by local application is from 10 to 100 millicurie's, and that less than one-tenth of a millicurie would probably not have a physiological effect, it will appear that in order to get a physiological effect from the most powerful mineral water, one would have to drink 3,800 gallons; or inhale, or absorb through the skin, the entire emanation from this amount of water.

Though much has been written on this subject, there are as yet few facts that point to definite positive conclusion, and many that negative the value of this theory. We know that the curative agent must be present in sufficient quantity to produce a physiologic effect. The radiotherapeutic reactions thus far investigated have been produced by far greater activity than exists in mineral waters; and we should be slow to accept this explanation of the therapeutic value of waters low in mineral content; if there be any, other than the water itself.

In the testimonials of physicians regarding the curative value of mineral waters, and treatment with them, away from resorts and springs, there is little distinction made between waters highly charged with mineral matter, and waters containing practically none. In many cases the conclusions appear to be based upon insufficient evidence, with no control experiments. In view of the above facts the profession should be more guarded in their statements as to the therapeutic effects, and some attempt be made to differentiate between a real mineral water, and an ordinary spring or table water. Many so-called mineral waters have no therapeutic effect, other than that of water, which, of course, is well recognized.

ON THE INTERPRETATION OF CERTAIN LABORATORY FINDINGS.

By F. A. Coward, M. D., Columbia, S. C.

IT is a noteworthy fact that conservatism in the valuation of laboratory diagnosis is found more in evidence among laboratory workers than among the practitioners who depend upon laboratory evidence for guidance in diagnosis and treatment.

This is not as it should be; there

Read before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

should be a unanimity of opinion as to the practical value of each laboratory procedure. Such unanimity can only come about through mutual understanding of the technic employed and the possibility of certain faults of apparatus and personal equation on the one hand; and of the clinical picture presented on the other hand. In the last analysis, the physician, who is seeing his patient daily or hourly—who is bringing to bear on that patient all the trained energies of touch, sight, hearing and experience, is the one who must make the diagnosis and determine the treatment.

To him, standing in the presence of the symptom-complex which makes up the clinical picture, the findings of a test tube or lens in a distant work shop must be merely added to the total—or given its true value in the general average; for the infallible laboratory test has not been devised, nor will it be, nor should it be, as long as human beings differ from machinery, and regular physicians keep their heads and hearts above the miry level of the sea of quackery.

Time permits the discussion of only a few representative tests: I have chosen therefore the following:

1. The presumptive test for B. Coli in water.
2. The examination, by Culture, for B. diphtheria.
3. The examination for P. malaria.
4. The Widal, or aggultination test for Typhoid fever.

The Presumptive Test For B. Coli in Water.

The test for bacterial evidence of water pollution is so much more delicate and definite than the chemical analysis that it has practically superseded the latter; at least in public health work. (1) Some misconception still exists concerning this test.

A search for the typhoid bacillus is not made. Such a search is rarely successful for two reasons:

First: It is rather tedious and is overtaxing on the capabilities of the average laboratory, particularly if large numbers of such tests are required.

Second: Since the typhoid bacillus does not live long in polluted water, the period of incubation of the disease may overlap the period of survival of the causative organism in its watery environment; hence a test of the suspected water after suspicion is aroused by the occurrence of typhoid will find the stable door open and the stable empty, so to speak—the causative germ has done its work and died out, leaving behind a negative-testing water to deceive the sanitarian and to please the afflicted family—for the old oaken bucket shares with the yellow dog and the Ford automobile the position of "first in the hearts of (the) countrymen."

The colon bacillus is a constant inhabitant of the large intestine of man and other animals, hence its name. It does not normally occur in nature elsewhere—hence its presence in water is absolute proof that animal feces, either as such, or in the form of dust, have obtained access to that water. Since the presence of the colon bacillus in water is readily detected within forty-eight hours, this organism has been selected as an indicator of fecal pollution. By various refinements of the test we may also determine the degrees of quantity, constancy, and recency of such pollution. Thus, at municipal water plants it is customary to make a preliminary determination of the number of colon bacilli present at various seasons and under varying conditions of drought and rainfall—these

(1) Prescott and Winslow— Elements of Water Bacteriology—John Wiley & Sons —1908. pp. 176-177.

standards being established; daily tests will show any departure from the standard—such a precedure is necessary, since it it may safely be assumed that any surface water will show colon bacilli in some degree under some telluric or climatic conditions.

But rural wells and springs, and even the public water supplies of small towns, can not be brought under such ideal supervision. A standard for a single test should be set if possible. Obviously, conclusions based on such a standard must always be fallible, since no single sample can possibly be representative of its course under all conditions; the result of such a test should be interpreted as showing the condition of the water at the time the sample was taken.

Upon recommendaton of the Surgeon General of the U. S. P. H. S., the Treasury Department on Oct. 21st last, adopted a bacteriological standard for drinking water for the purpose of the administration of the Interstate Quarantine Regulations as they relate to the drinking water supplied to the public by common carriers in interstate commerce. This standard requires a twenty-four hour, 37 degree agar count of not more than 100 per c. c.—and that not more than one out of five 10 c.c. portions in lactose broth shall show B. Coli.

This is not a standard of purity but a standard of "permissible impurity"—it is intended solely for the testing of water furnished to railway cars, and to the other common carriers. It is a valuable guide.

The writer is certain that few of our municipal or domestic supplies in the state would conform to the test throughout the year.

The test having been made and the colon bacillus having been found, our reasoning is simple. If B. Coli is present, feces have entered the water. If feces have entered the water, typhoid bacilli may have entered or may enter at some time, and such a water is not fit for drinking.

Examination, By Culture, For the Diphtheria Bacillus.

The finding of diphtheria bacilli in a person's throat does not mean that such person has the disease diphtheria.

As a matter of fact many such persons are chronic carriers, and, as proved by the Schick test, are actually immune to diphtheria.*2. Such persons should have local treatment with Iodine or Argyrol, by spray to the nose, and by direct swabbing to the pharynx. The failure to find living diphtheria bacilli in culture from a suspicious throat does not rule out a diagnosis of diphtheria, the bacilli on the surface may be dead, killed by the same lytic ferment which has destroyed the epithelia and formed the pseudo membrane.

After several years experience in diphtheria control work in Columbia, the writer no longer feels surprised when he gets a positive culture after the cleaning off of the membrane, although cultures ran constantly negative during the entire clinical phase of the disease. Let us bear in mind therefore, that antitoxin is what its name implies, **Antitoxic,** but it is **not bactericidal.** This fact explains the continuance of diphtheria in our rural districts, and in fact in all communities in which bacteriological control is not enforced. The physician cures the symptoms due to toxin by giving antitoxin, the throat cleans off, and the patient gets well, but in a certain large percentage of cases the bacilli remain in the throat and the former patient has now become a traveling solicitor

*2 Weaver Geo. H. and Mahr L. K.—Journal Infect. Dis. 1915, 16, page 345.

and producer of patients for his former physician; though innocent in intent.

Those persons whose throats spontaneously free themselves of the diphtheria bacilli owe their thriving to the exalted resistance accompanying the return of physical well being.

The preceding remarks are merely offered in explanation of certain apparently puzzling findings, in the majority of cases the usual swab culture may be relied upon for diagnosis. The occasional occurrence of non-virulent strains of bacilli the writer believes to be practically unimportant under present conditions in this state. Certainly no such theory should be advanced for the purpose of evading proper preventive measures. The burden of proof must rest on the attendant and his patient; and his particular organism should be proved non-virulent by animal inoculation before he be allowed to menace his fellow man.

The Examination For P. Malaria.

This shall be summed up in a few words.

First: Unless clean slides are used it is impossible to make a blood smear which is of any value. By clean slides we mean, slides which have been soaked in HCl-alcohol, or HNO 3 alcohol, or ether; and polished and flamed immediately before taking the specimen. To use slides prepared by any other method is a waste of time and glassware.

Second: Smears should be taken during the two or three hour period preceding the chill—and before any quinine has been given. Blood taken at other times, or after quinine administration, can not be expected to yield positive results. This is not intended to discourage the attempt to find the parasite at any time. The effort should be made, but failure to find the parasite should carry its proper discount.

Lastly, a negative search for malarial parasites is perhaps the least significant of all laboratory negatives. While on the other hand, in case of a positive finding, the physician should remember that his patient, particularly if that patient be a negro, may have malaria parasites in his blood, but be actually suffering with some other disease.

The Widal or Agglutination Test For Typhoid Fever.

Time permits only a brief discussion of certain salient facts concerning this test. So far as this paper is concerned therefore the term WIDAL TEST means the microscopic test with bouillon culture and dried blood, using a dilution of 1 to 40, with reading after forty-five minutes.

First: The Widal test is not for typhoid fever, it is a rough test for typhoid immunity. Some persons never develop immunity to infectious diseases, hence some cases of typhoid will never show the reaction. It follows that the most severe and profoundly toxic may show a delayed or weak reaction, or none at all; and that a clinically mild case may show an early, strong reaction. Theoretically, such should always be the case.

A case of typhoid due to one strain of B. typhosus may develop agglutinins specific for that strain only, or may show a weak or doubtful agglutination with other strains. Conversely, vaccine immunization with a given strain may not immunize against B. typhosus in general. Typhoid sera agglutinate the other members of the typhoid group, such as the paratyphoids, but paratyphoid sera do not agglutinate B. Typhosus.

As a rule agglutination can be detected in the sera of typhoid cases after the first week. It will appear by the fourth week in about 90% of cases.*3.

*3 Park and Williams, Pathogenic Micro. Organisms, 1910. Lea & Febiger, p. 297.

The reaction persists in the serum for a varying period, usually disappearing after a few months. The reaction is perceptible about the seventh day after the first dose of typhoid vaccine, and is strongest immediately after the third dose. It persists for a short time only, and has disappeared in most cases after six months.*4, 5. As the majority of persons recovering from typhoid fever are immune for life, in spite of the disappearance of the agglutinins from their sera, we must conclude that agglutination is not a safe indicator of the degree of immunity.

Bearing in mind the method of testing for agglutination under discussion in this paper, the writer believes the following scheme to be a fair basis for interpretation of results with the test:

First: Clinical symptoms clear, patient previously vaccinated or not vaccinated—early negative Widal followed by one or more positive Widals. Diagnosis: Typhoid fever.

Second: All clinical symptoms, clear; negative Widals throughout, probable infection with a member of typhoid—Colon group—Clinical diagnosis should be Typhoid.

Third: Clinical picture obscure, negative Widal followed by later and consistent positives. Diagnosis: Typhoid fever.

Fourth: Doubtful clinical picture—negative Widals throughout—not Typhoid.

Fifth: Patient not sick, or clearly sick of some other non-related disease—positive Widals. Diagnosis Not Typhoid. Patient is probable typhoid bacillus carrier.

Sixth: A single test, regardless of its result, should never be relied upon except in the simplest and most obvious cases, although negative in the third or fourth week in a doubtful case would argue against typhoid.

Seventh: While the reaction has been obtained in various diseases other than typhoid, it is probable in the light of our present knowledge of immunity, that these cases were carriers, and that the positive reactions did not depend upon or originate from the diseases with which they were afflicted at the time of their testing.

*4 Wade E. M. and McDaniel O. Amer. Journal Pub. Health X-p. 140.

*5 Rice, H. W., unpublished paper read before Columbia Med. Society, 1914.

DISCUSSION:

Dr. Francis Parker, Charleston, S. C.

Mr. President and gentlemen: I think Dr. Coward has presented an excellent paper, and his remarks regarding the interpretation of laboratory findings and the necessity for control tests and experiments are apt. I do not agree with him, however, that bacterial analyses have superseded chemical analyses in public health investigations. It is evident that in the determination of the purity or the contamination of a water supply that the bacterial examination furnishes the most rapid and perhaps the best test; but however this may be, this is not the only object to be accomplished in the examination. As a matter of fact, a bacterial examination furnishes little other evidence than actual contamination or a negative result; whereas the potential sources of contamination are of much more importance than the actual contamination.

In the standard methods outlined by the American Public Health Association for the examination of water and sewage, four tests are outlined, namely: the physical, which gives some idea of the aesthetic value of the water. The chemical examination, which gives an indication as to the history of the water, and as to the amount of the contamination. The amount of contami-

nation is frequently not indicated by the bacterial test. The bacterial tests, which indicate the presence of sewerage contamination. The biological tests, which indicate the presence of certain microscopical organisms, which are frequently of importance.

If we are to consider a water only from the viewpoint of its bacterial content, or the presence or absence of sewerage organisms, we do not have any idea of what is going on. A bacterial examination may show no sewerage organisms, and small number of bacteria, and yet the water contains a large quantity of organic matter; as in case of a water contaminated with acid fish.

Chemical examination would show the water to be unfit. It is evident that small quantities of sulphuric acid and such a water is not a fit source of supply. Of course an adult may drink small quantities of sudphuric acid and rotten fish soup and still survive, but such a condition may produce very, very serious disturbances in infants. Also, the presence of large quantities of vegetable matter, which also produce grave disturbances in the intestinal tract. In the case of an underground cistern in direct communication with dry well, the bacterial examination made by several parties indicated no sewerage organisms. We may explain by saying that the water was so highly charged with bacteria that it had undergone a septic purification. However, the bacillus Coli was not found in this water. It was not water at all, in the ordinary sense of the term; it was sewage. In such conditions bacterial findings may lead us far astray, and would not answer frequent calls for opinions as to the sources of the contamination and method of improving the condition.

In regard to the presence of Algae, which have a significance, but do not produce any specific disease, in a number of instances which have come under my notice, and in one in particular, the Board of Health ordered the water out of the schools, on account of its disagreeable odor and taste. The water was submitted to me, with no history, and the tests indicated the water to be free from contamination. I was asked to examine the plant. I found that there was a corner of the reservoir in which algae had grown to such an extent that they could be seen by the naked eye. Ordinarily we have to magnify them from 40 to 200 diameters to detect them. A few slight changes in the plant was all that was necessary to remove these organisms.

In the Charleston water supply we have an old salt water basin dammed off from the sea; so that we have the problem of getting rid of the crenothrix, etc., and all kinds of subtropical vegetation and organic debris that float up from the bottom of the reservoir. Biological tests are necessary in such cases.

Dr. Marion H. Wyman, Columbia:

The laboratory worker, as Dr. Coward brought out, should report his findings only, and if any comment is made, it should be with reference to the way the specimen is collected. For example, in examining urine it is very necessary to know whether the patient is male or female, voided or catheterized. As you know, the morphology and staining properties of the smegma and the tubercular bacilli are the same. The prognosis of these cases is so much influence by the laboratory findings; for example, a kidney which showed a stone by the x-ray, was doomed by the surgeon because the laboratory worker reported tubercular bacilli found in the voided urine, which were really only the smegma bacilli, so the kidney was saved.

EXPERIENCES WITH EMETINE IN DYSENTERIC CONDITIONS.

By H. L. Shaw, M. D., Fountain Inn, S. C.

"ANDREW first findeth Simon," when Andrew found the Messias, the first thing he did was to look for his brother that he might tell him.

Like Andrew—having found something good, the first thing I want to do is to tell the brethren.

It is so seldom we find a drug that acts anything like a specific that when we do we all rejoice.

The drug to which I refer is Emetine Hydrochloride.

Sharpe & Dohme say it is: "The salt of one of the active principles of Ipecacuanha, Specific for Amebic Dysentery."

I would like to go a step further and say it is beneficial if not curative in all forms of dysentery, for I have used it in dysenteric conditions without confirming the diagnosis of the Amebic type, and with most gratifying results, as the following brief summary of cases will show:

Case No. 1.—Mrs. P. K. White, native of the state, gave history of having had dysentery for two years. Began treatment by giving 1-3 Gr. of Emetine Hydrochloride, hyperdermically injected, increasing 1-3 of a Gr. each dose until 2 grs. daily was reached, continued this until the tenth day when the patient was dismissed as cured. She has had no return of the trouble since, so far as we know.

Case No. 2.—C. B. Male, white, age 30, native of the state. Gave history of having had dysentery for one year. Administered treatment as in previous case, dismissed patient on tenth day apparently cured. Two months later patient returned for treatment, his condition being the same as before treatment was first given.

After giving a second treatment the patient made a complete recovery. Is still under observation but has had no trouble since treatment given in summer of 1913.

Case No. 3.—J. J. Male, white, age about 65, native of the state. History of having had dysentery for two years. Treatment as in above cases, cured in ten days, no further trouble, patient still under observation.

Case No. 4.—"N. G." Male, white, age 60, cotton mill operative. Same treatment, complete recovery, no relapse.

Case No. 5.—Mrs. P. Age 21, white, mill operative, native of the state. Began treatment with 2-3 grs. Emetine Hydrochloride increasing 1-3 gr. daily until the fifth day when 2 grs. was reached. The treatment was then stopped and the patient dismissed, she has had no further bowel trouble.

Case No. 6.—W. E. C. Male, age 30. Patient gave history of having had dysentery for about four months.

If one form of dysentery can be said to be more troublesome than another his was, for it invariably got him out from about two A. M. until midday, during which time his bowels would act quite a number of times.

Without making a microscopic examination he was given the Emetine treatment with most gratifying results, only to return in about three weeks complaining as at first. Treatment of Emetine was again given with good results, that is, bowels checked up to normal and patient dismissed, was confident of a cure this time, but patient bobbed up again after three weeks with loose bowels. Repeated same treatment for third time, patient returned

Read before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

as before at the end of about three weeks.

Then it was I had his faeces examined and found no Ameba, or other intestinal prarasite. The patient was given treatment for Proctitis as follows:

Rx.

Fl. Ext. Krameria oz. 4
Sodium Bicarb. dr. 2

M Sig.

Two table-spoonfulls in pint of warm water injected into the rectum at bed-time.

The next night the following was given:

Rx.

Iodoform dr. 1
Sub. Nit. Bis. oz. ½
Olive Oil to q. s. pint 1

M Sig. Inject into the rectum four ounces at bed-time.

This was continued for a few weeks, the patient's bowels checked up, he gained flesh, and was completely relieved of his bowel trouble, which was due to Proctitis.

My reason for mentioning this case is to show that although he had no Ameba, still he was benefitted by the Emetine treatment for a while at least every time the treatment was given.

Case No. 7.—J. A. D. Male, age 59, Pellagrin. Patient developed Pellagra in the summer of 1912, but with tonics, force feeding and arsenic managed to get along fairly well.

It was not until the summer of 1913 he became much worse. After weeks of gradual decline he was confined to his bed for all the time.

His Gastro-Intestinal symptoms, which were marked during all of his sickness, became worse and worse, notwithstanding he was given the most careful attention.

Toward the latter part of the summer of 1913 after he had been sick for about three months his life was despaired of, due to Gastro-Intestinal conditions.

I had a correct account kept of his bowel movements which amounted to 15 in 24 hours—still he was taking Opium and Bismuth in full doses.

The patient was given 2-3 grs. of Emetine Hydrochloride the first day, increasing 1-3 gr. daily until 2 grs. were given, which amount was reached on the fifth day.

The bowel movements began to check after the first or second dose, and after the fifth was almost normal.

With the improvement of the Gastro-Intestinal symptoms the patient gained rapidly, and was soon well on the way to recovry.

I am glad to report he is apparently in good health again.

I might enumerate other cases, but the few I have mentioned will suffice to show the value of Emetine in Dysenteric conditions.

You note that the cases reported are what we call chronic dysentery, and in none of the cases were the Ameba found, and in only a few of the patients treated by me were the Ameba looked for, hence my claim that the drug is valuable in all forms of dysentery.

You note also that marked benefit was obtained in treating the Gastro-Intestinal conditions of Pellagrins. Also that for a while after treatment was administered in a case of Proctitis we had good results.

Be sure to use a reliable preparation of the drug or you will be disappointed. Of the preparations used by me I have gotten better results from the use of Hypodermic tablets made by Burroughs & Welcome.

DISCUSSION:

Dr. E. W. Pressley, Clover, S. C.

One series of cases cannot establish

a therapeutic fact any more than one swallow can make a summer, (but I have understood that one grass-hopper can make a spring), but our series of cases is one step toward establishing a therapeutic fact and that step Dr. Shaw has taken.

It is a pleasure to me to be able to endorse what Dr. Shaw has given as his experience. I have no tabulated report of cases, but my experience with emetine in dysenteric conditions, while not quite so uniformly favorable as Dr. Shaw's reported cases, is yet quite encouraging.

It was, I think, Dr. Oliver Wendell Holmes who, when he was asked when ought the training of a child to begin in order to make him a gentleman, replied, "About two hundred years before he is born." Emetine has met the requirement since Ipecacuanha has been recognized as a standard remedy in dysenteric conditions for that length of time. It was, I have no doubt, the emetine in the Ipecacuanha that was the curative agent. Fortunately, in using emetine, we do not need the elaborate and too often unavailing provision against vomiting that I remember Dr. S. C. Chew of Baltimore, gave us when explaining and endorsing the use of Ipecacuanha in dysentery. Dr. Shaw's conclusions, I am sure, are correct. Understand, these conclusions are those not of a bacteriologist nor yet of a pathologist, but only those of a plain clinician, a "doctor" who, perhaps like myself, would hardly recognize an ameba if he was met in the road with a tag on, but who does know his dysenteric patients, and knows further the remedies that in his hands go fartherest toward not simply relieving them, but actually restoring them to a condition of normal health.

Dr. Baxter Haynes, Spartanburg.

Mr. President, I want to relate the experience I had with one case of amebic dysentery. I know it was amebic dysentery, because I found the ameba in the feces. This man came to me on Tuesday of the first week in January, 1915. This attack came on the first week in August, 1914. He had been having from twelve to fourteen bloody mucus bowel movements during the day and from six to eight during the night. After finding the ameba I gave him an injection of 1-2 grain Emetine Hydrochloride in my office about four o'clock on Monday. I sent him home and told him to go to bed, which he did. I saw him on Wednesday and he had two bowel movements Tuesday afternoon, next day after first dose. Wednesday he did not have any at all, but I gave him another 1-2 grain about mid-day Wednesday. Thursday he had a normal bowel movement. Friday mid-day I gave him 1-2 grain. On Friday he had no bowel movement at all, and on Saturday he had one normal bowel movement, and that man, up to last week, his bowel movements have been practically normal, with only three doses of emetine hydrochloride. That is the most gratifying case I have ever had. I have had some other cases that required four or five different treatments and I managed the case practically as Dr. Shaw did his; but these were the most gratifying results that I have had in the fourteen years I have been in practice. Next year, if nothing happens, I am going to write a paper on some of the mistakes that I have made.

Dr. K. M. Lynch, Charleston, S. C.

In considering the question of dysentery, I would like to call your attention to another organism responsible for the condition in this part of the country, and that is the Trichomonas. In a great many cases of chronic dysen-

tery, Emetine will be good for the condition whether you look for the ameba or not. Still, you will encounter cases now and then which will not respond to emetine. I have had some ten or fifteen of these cases in the past year in Charleston, which showed the ameba coli and also the Trichomonas. The dysentery in these cases was due to the Trichomonas, which will produce, at times, the same sort of diarrhoea in experimental animals. These organisms can be killed by quinine. Emetine will not touch them. The objection to the quinine treatment is that it is very difficult to reach them. It has to be by colonic irrigation, and at times this will not reach them all. Consequently they are hard to handle.

We know that a great many cases of pellagra have amebae. The probable method of transmission renders the individual liable to both. When you get a patient with pellagra and an amebic diarrhoea, of course emetine will help the diarrhoea, but you will also encounter cases of pellagra with a diarrhoea which emetine will not affect.

The basis of emetine treatment of dysentery is, of course, the discovery of the amebic cause, and we do not believe in broad statements to the effect that emetine will give relief in all cases of dysentery.

Dr. T. R. Wilson, Greenville, S. C.

Since 1911, in Greenville County I have made examinations and found over 100 cases of amebic infection. We have had almost universal success in the treatment of these cases, but in some of them we have been taught a lesson, that in a number of these cases I have found the trichomonas present.

In the use of emetine there have been several cases in which we have gotten a marked reaction from the injection. In this case if you will test your emetine you will find it is acid and valueless. Where we get the skin irritation from the injection of emetine we do not get the results.

In the treatment of amebic infection we must remember that the destruction of the mucosa and submucosa has gone on to such an extent that although you remove the causative agent, you must have something to act as a soothing agent to these irritated surfaces, or diarrhoea is liable to keep up and mislead the physician as to the effect of the emetine.

I have seen the cases where the trichomonas was present that the quinine has done good.

I would like to report two cases: One a negro boy 17 or 18 years of age, weighing about 90 pounds, having a dysentery, bowel movements from 30 to 35 in the 24 hours. He was given the treatment. I do not know just the amount of emetine that was given him, but the dysentery condition cleared up very quickly. However, he complained of a disturbance in the right side and examination revealed the upper border of the liver on a line with the nipple, and the lower portion as low as the umbilicus. Suddenly he commenced to cough up immense quantities of pus, and I examined it and got several specimens and had them examined and it was alive with ameba. That boy was put on two-third grains emetine twice daily for two weeks, the liver diminished rapidly in size, and to-day that boy weighs about 200.

Another case that came under my observation, came into the hospital with some disturbance in the abdomen, with a chronic appendicitis, the left lobe of the liver coming down about two inches lower than normal. The blood count showed 23,000, with a polymorpho count of 76 per cent. The gall bladder was drained and appendix removed and the patient for some days did decidedly better. How-

ever, two weeks after operation the liver began to enlarge again. There was one point we noticed as long as the gall-bladder was draining well: when we got a good bile stain on the dressing; that patient was feeling decidedly better, and when we took the dressing off and found simply a serious discharge of fluid coming from the gall bladder, the condition was not so good. That patient recovered and was feeling good.

Two weeks later, on leaving the hospital, the blood count was 18,000, with a polymorpho count of 73 per cent. He was put on emetine and kept on it for five days. The liver, within one week after the treatment had started, had diminished until you could not feel it below the normal boundary, and to-day the patient is feeling very much better, and the lowest blood count was 18,000, with 64 per cent. polymorpho. That case has never had dysentery in his whole life. There is no history of an infection in the intestinal canal.

Dr. J. H. Taylor, Columbia:

I would call attention to the importance of being able to recgnize as nearly as you can, without question, whether you are dealing with the amebic dysentery or the ameba coli.

A carpenter about thirty-five years of age, had a history of gallstone attacks for three or four years, and finally came for examination and said he was tired of taking medicine; he had spent all his money on it and was tired of it. Finally a cholcyestectomy was done. His gall-bladder was loaded with gallstones, but during his weeks of convalescence he got along perfectly. At the end of two weeks his wound had healed up and he was sitting up, but just a week before that there was a man brought in who had a diagnosis of amebic dysentery made on him; he had certain symptoms suggestive of pellagra and he was put into the bed next to this convalescent gallstone case. He stayed there three days and so much objection was made to the uncleanliness of the man—he soiled the floor and everything,—that the gallstone man was removed to another room, and it was just a week before the first symptoms developed in the carpenter. One day I went in and he was feeling finely and could not get enough to eat; the next day he had lost his appetite; he had a temperature of 1.8 above normal, and had a large bloody stool. We found that before coming to the hospital, he had been in the house with a very unusual case of typhoid fever. The blood count showed 8 per cent. polyneuclear and 30,000 leukocytes. He then began to have bloody stools and had six or eight that day, and he just went down and faded away, and in six days he was dead. Dr. N. B. Haywood of Columbia, came in and examined the stools. He suspected amebic dysentery from the man in the next bed. The stools were loaded with ameba. We got an autopsy on the man. His relatives were told that he had amebic dysentery, got from this case, and a lawsuit was started, but fortunately, clinical findings blocked that. Autopsy showed the colon a mass of ulcers, with hemorrhages through the bowels and portions of the bowel almost gangrenous, and we felt that we were dealing with a case of amebic dysentery. The man was treated with emetine, with absolutely no effect. We sent a specimen to New York for examination and report came in that there was absolutely no suggestion of ameba, and it was an acute, infectious process of unknown origin.

CARDIO SPASM WITH DILATED OESOPHAGUS. WITH REPORT OF A CLINICAL CASE.

By John W. Parker, M. D.,
Greenville, S. C.

CARDIO spasm is characterized by a spasmodic contraction of the cardia not due to any organic disease. Under normal conditions there is a spasmodic contraction of the cardia by which solids and liquids are somewhat delayed in their passage to the stomach. This condition may be increased independently of any obstruction or anatomical narrowing of the lumen, and result in a diffuse dilatation of the Oesophagus.

It was first described by Purton in 1821. He observed this patient for twenty years, who had difficulty in swallowing, would regurgitate his food and choke while eating. He knew there was trouble in the oesophagus but no obstruction as he could pass a tube into the stomach without much difficulty. At autopsy, his oesophagus contained about 2000 cc. of fluid, with the entrance into the stomach free of any obstruction. In 1833 Dr. Alexander J. Hannay in the Edinburg Med. and Surg. Journal, described a case of Idiopathic dilatation of the oesophagus without any obstruction within or without. In 1874 Zeimssen and Zenker collected 17 cases from the literature.

Twenty years ago, so-called Idiopathic dilatation of the oesophagus was looked upon as rare and chiefly of pathological interest rarely diagnosed antemortem, but we know now, that the condition is not so very rare.

Clinically it has been recognized since about 1880. Among some of these who have studied and reported cases antemortem are Zenker, Strumpell, Plummer, Sippy, Einhorn, and Meltzer. Meltzer was the first to describe the physiological swallowing sound, which is very important in this condition, or the absence of it, if nothing enters the stomach you will get no sound. Meltzer was one of the first to report a case in the living. He made his diagnosis by the absence of the swallowing sound, notwithstanding he could go into the stomach with a tube with very little difficulty. Since 1903 Sippy has reported and treated sixty cases.

The Etiology is not very definite. Meltzer thinks it is due to the failure of the contractile inhibitory influences controlling the cardia. Others think it is due to weakness of the muscular coats. Tyson views it as a functional disturbance of the innervation of the oesophagus, causing cardio spasm, as well as weakness of the muscular coats. Kronecker succeeded in isolating branches of the vagus, controlling the contractility of the cardia. The inhibitory influences comes through the Vagus distribution and when they are increased the contraction of the orifice occurs. Einhorn reports three (3) cases with definite history of trauma in the cardiac region. It is more common in women than men and occurs mostly in neurotic individuals. May occur from habitual air swallowing. Friedenwald reports in 1592 cases of Gastric Neurosis twenty-five (25) cases of 1.5% of cardiac spasm, seventeen females and eight males.

Diagnosis. Nearly all of the usual signs of oesophageal obstruction from organic stricture are present, with a few peculiarities. Years may pass before they show much emaciation. The degree of dilation is greater than with organic stricture. Absence of swallowing sound. Able to reach the stomach with instrument without encountering much obstruction. Prove that

Read before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

there are two cavities one above the other and in these cavities fluids of different character at the same time, one in the oesophagus, the other in the stomach. That from the stomach will show the characteristic ingredients HCL. PEPSIN, etc., while that in the oesophagus is different. In some cases the gastric juice may be absent, then you will not find much difference. This can be overcome by giving a cup of black coffee or eosin water. Have patient take several deep breaths and wait an hour, then give a glass of water. Enter the oesophagus with a short tube and you will get the clear water, push the tube on in the stomach and you will get the colored fluid. Of course if you can, have an X-ray picture made. History of case to be reported is as follows:

H. H., Female, age 39, admitted to hospital January 6th, 1915; occupation cook. She was admitted to hospital with frequent persistent regurgitation, which was thought to be due to the effects of thyroidism. She was referred to the Surgical department, and on January 7, a thyroidectmy was done. Wound healed by second intention, but regurgitation persisted, and a severe stomatitis developed so she was referred to the medical department. On February 3rd, 1915, through the courtesy of Drs. Bruce and Anderson I was asked to see her. Found a very much emaciated patient. Pulse weak and rapid, temperature from 97 to 99, Haemoglobin 35 per cent. Urinary findings negative. On physical examination, chest negative, abdomen very shrunken, pulsation of abdominal aorta could be felt without much pressure, and also visible, no dilation of the stomach, no enlargement of mesenteric glands, Wassermann negative.

On trying to give her liquid nourishment, it would regurgitate continuously. On passing the tube into the oesophagus contents were returned, the oesophagus was fund to contain about 500. cc. When passed on in the stomach met with distinct resistance, but on steady pressure gave way, and went into stomach which was found empty and caused me to think of cardio spasm. A glass of water was then given and the swallowing sounds listened for by Dr. Anderson and myself, but none were heard. On February 4th referred her to the X-ray department, but was in such weakened condition, had to be returned to bed. In order to get patient in condition for a complete study, she was fed through a stomach tube.

Milk dr. 16, eggs two, brandy dr. 4, and a little sugar three times a day. Due to the fact of her condition she was not weighed till February 8th, 1915, on this date she weighed 72 1-2 pounds; on February 9th X-ray picture made after bismuth had been given by mouth. The bismuth remained in the oesophagus seventy-two hours, then was washed out. On February 12th patient weighed 79 pounds. On February 16th Haemoglobin 50 per cent. On February 19th she was given a little toast and broth between the tube feedings. On February 21st tube feedings kept up and regular diet given. On February 22 weight 82 pounds. February 28th 85 1-2 pounds. March 5th 87 1-4 pounds. March 15th 95 1-4 pounds, March 19th 96 pounds, March 26th 98 pounds, March 30th 99 pounds. On April 8th Dilation of cardia was done with an Einhorn dilator to six cm. The distance from her teeth to cardia is sixteen and one-fourth inches. Tube feedings stopped, patient takes food comfortably. April 11th patient weighed one hundred and one (101) pounds, cardia dilated on that date to 8 cm.

On April 14th the oesophascope was used but it filled with fluid so that nothing could be seen. Patient says 105 pounds is the most she ever weighed.

On April 20th it was 105 pounds. Haemoglobin 65%. Total gain in weight 32 1-2 pounds.

I report this case because of their rarity and the rapidity with which this patient has regained weight and strength. She is now able to return to her usual vocation.

DISCUSSION:

Dr. T. R. Wilson, Greenville, S. C.

Mr. President, I just want to emphasize one or two points. I had the pleasure of seeing the case with Dr. Parker, and one point was the resistance that was met with in passing that tube. After the tube was passed down about sixteen inches, you could get distinct interference. If we tried to push, we would have to keep up a steady pressure for the tube to slip through, and in pulling the tube back there was something more than the ordinary adhesion of the oesophagus interfering with the return of the tube. She did not at first want the tube passed and did not want to be fed in that way. She was so weak she did not really know what she did want. After the second or third day after that feeding, when she had not complained of hunger at all, she commenced to complain that she was not getting enough to eat, so that she would fuss with the nurses, telling them that the time for feeding had elapsed. Prior to the tube feeding she had no taste whatever. Her condition was so thoroughly run down she had no vitality left. After she commenced to pick up, however, it was a very amusing thing the way she would reach for the end of the tube to get the taste of the sugar and the brandy there, and her strength came back very quickly.

The diagnosis in this case was due to the fact, as Dr. Parker has stated, that he met with the obstruction after the continued pressure, the absence of the swallowing sounds.

THE PRESENT INFLUENZA EPIDEMIC IN NEW YORK.

By Paul M. Allen and Paul L. Hudson.
Students, College of Physicians and Surgeons, Columbia University,
New York City.

RECENTLY widespread interest has been aroused by an influenza epidemic which seems to have entered America by way of New York, and has since rapidly spread throughout the entire country. In the following article we have not attempted a detailed analysis of this well known disease, or to offer any suggestions as to its treatment, but merely wish to give a brief account of our observations of the present epidemic as seen in New York City. Brief mention is made of the great epidemic of 1890 and the nature of the diseases then contrasted with the more serious nature of the symptoms as seen at the present.

No other disease spreads over such enormous territory and with such speed as influenza. In fact its rate of spread is so rapid that previous to the discovery of the influenza bacillus by Pfeiffer in 1892 and the definite establishment of its infectious nature it was thought impossible for any infectious disease to spread so rapidly from man to man.

The rapidity with which this epidemic spreads is well illustrated by the epidemic of 1888-1890. This great pandemic outbreak probably arose in Hong Kong in the Fall of 1888. It next appeared in Buchara in the spring of 1889 and by the early Fall it had reached Tomsk and travelled as far as St. Petersburg by late October. By November it was sweeping Germany and France; during December it rapidly

passed through Austria, Sweden, Denmark, Switzerland, Italy, Spain, Portugal, Belgium, the Netherlands and England. In the early Spring of 1889 it was raging in the Balkans, India, Australia, and the United States. During April it was in West Africa and the following May appeared again in China. Berlin was again invaded in November of the same year. Paris and London received a second invasion in the following month and Boston and New York two weeks later. Thus within a little over one year the disease had rapidly spread over the entire world.

A striking feature about this great epidemic, as well as a hundred and twenty-five others that we have investigated, is their mildness as compared with the more serious nature of our present epidemic and its relatively higher mortality. In the past epidemics forty per cent. of the population have been attacked—in spite of this fact, however, the mortality has been surprisingly low, especially when we consider the serious complications which often arise. Of 55,263 German Army cases recorded less than one hundred died, over forty-two per cent. of whom showed pulmonary symptoms. In Munich 22,972 cases were carefully recorded with a mortality of about 200, seventy per cent. of whom showed pulmonary infection.

Contrary to the general belief this epidemic has occurred without regard to country, climate, wind or weather. Out of the series of one hundred and twenty-five epidemics investigated we found that fifty occurred in winter, thirty-five in spring, sixteen in summer, and twenty-four in the fall.

The present epidemic has been traced as coming directly from Europe. In London last February, and the winter before, influenza was prevalent. The London epidemic of last February, although quite serious and wide-spread, differed from the one of the previous winter by being devoid of the serious gastric symptoms which had formerly manifested themselves. The acute infectious nature of the disease was well illustrated by a case in which an office clerk spread the disease throughout his entire factory. Many cases were recorded where one member of the family came home with an infection to spread it through his household. The mildness of the disease permitted the infected person to continue his occupation, yet the infective nature of the disease allowed him to spread it broadcast.

Through the channels of commerce between New York and London, which have been especially active during the last few months, influenza has gotten a foothold in America, which has so far resisted every effort of public health officials to check its further spread.

It seems that the passage of many generations of the bacillus through the human body has increased its virulence markedly.

To one familiar with the congested conditions of New York traffic it is no wonder that the disease has spread with such alarming rapidity, and scarcely anyone has escaped infection. When we stop to consider that more people than all those in the States of North and South Carolina combined are transported to and from their work daily in Greater New York, and that the majority of these travel in dark, damp sub-ways, where conditions for the spread of such infections are ideal, it is not surprising that "All New York has the Grippe."

If one stands in any sub-way station for a short while and watches the express trains rush by every two or three minutes, packed to their utmost capacity with human beings, a large percent of whom are carrying an infectious disease in their upper respiratory tract, it is then easy to understand how in-

fluenza has made such headway here. The deplorable fact is, that in spite of conspicuous notices such as, "Spitting on the Floor Positively Prohibited, Punishable with $500 fine, a Year in Prison or both!" many of the passengers carelessly violate the law and thus spread the disease. This is also true of surface cars, elevated trains and public buildings.

The nature of the present epidemic is more serious than previous ones and much interest has therefore been aroused. As is generally the case the upper respiratory tract has in most cases been the place of initial infection, with subsequent complications, most serious of which are pulmonary. Forty cases of "bad colds" and general malaise in one class of students in the College of Physicians and Surgeons were carefully investigated from a bacteriological standpoint. Of this number almost thirty showed positive cultures of bacillus influenza in their nose and throat, which were of course mixed with other bacilli. The alarming discovery was that a surprisingly large number showed pneumococci mixed with bacillus influenza. Another series of five typical cases was carefully investigated, four of whom showed pure culture of bacillus influenza and the fifth pneumococci. It is understood that the usual oral flora of bacilli were also present.

Authorities differ in deciding upon the real cause of the epidemic, some thinking it is due almost entirely to bacillus influenza, while others think it is a mixed infection of influenza, pneumococci, et al. It has been found that the Pfeiffer bacillus seems to be more virulent and makes greater headway when associated with streptococci, staphlococci, pneumococci, tubercle bacilli and other pathogenic organisms. These associated organisms, by reducing the resistance of the tissues, make the environment more suitable for the growth of influenza bacillus and vice versa. No matter where it comes from or what it is suffice it to say it is here and we have found it by no means "a good natured germ" and no respector of persons.

As a result the many New York Hospitals have been taxed to their utmost capacity with patients, and the symptoms presented have assumed the diversity of syphilis, and rivalled it in the behaviour and elusiveness of the infective agent. No symptoms heretofore noticed in previous epidemics have failed to appear and many new ones have been observed. The greatest number of infections are primarily of the upper respiratory tracts as mentioned. The nose, throat, fauces, and palate are first involved and quickly followed by a pharyngitis and often laryngitis. The appearance of the throat is typical for the disease. It is swollen and inflamed but not very painful and the patient often says he is not sick. The uvula, velum, anterior pillars and tonsils may be seen to be swollen, livid, and oedematous, and one accustomed to seeing such throats recognize in them a characteristic appearance, which is of great diagnostic value. The above symptoms may disappear or remain chronic for many weeks, the patient then becoming a carrier of the disease. The above class of patients are not often seen in the clinics as they are satisfied with home treatment, or possibly none at all. The more serious, however, and the type of cases which are now filling the clinics of our largest hospitals, are those in which the bronchi and lungs have become involved with the general systemic symptoms of toxemia. Bronchitis, bronchopneumonia, or lobar pneumonia of a severe and fatal type may rapidly follow. The pneumonia may lead to empyema with abscesses, gangrene, or pneumothorax. The sputum in such cases is of a peculiar consistency, being

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stringy, sticky and hard to dislodge. The rales are characteristic of influenza, they sound sticky and explosive and have been described as sounding like a new bill being crushed in the pocket. The true toxemia associated with the disease early manifests itself, among other ways by injury to the heart. Functional heart disturbances are recognized; tachycardia or bradycardia, palpitation, irregularity, and dicrotic pulse are often noted. Frequently endocarditis and at times septicemia, with only slight leucocytosis. Early heart failure with congestion of the lungs may consequently appear. The discouraging fact about the lung cases is that such a large number prove fatal, and even if the patient recovers he is more susceptible to subsequent infections of pneumonia and tuberculosis, and influenza again because immunity, if any, is very short lasting. Many relapses have been recorded, and this is not surprising as the bacteria have been demonstrated in the upper respiratory tract and lungs for years after apparent recovery. Among the wide variety of symptoms associated with the disease in its vorious forms we have noticed the following: Colds, headache and general pains, tenderness over the facial sinuses, with occasional suppurations which were generally of mixed origin. Aching joints with severe cases of acute "Articular rhumatism" have been described by some. One authority claims to have obtained bacillus influenza in pure culture from pus in an elbow joint, and from two other cases where the knee joint was similarly involved. Prostration, vertigo, insomnia, and rarely delirium and coma have been noted together with other symptoms. At times the nervous symptoms disguise the respiratory symptoms; neuralgia is frequent and psychosis has occasionally followed as is sometimes the case with typhoid and pneumonia, but the prognosis is good in the latter phase of the disease. We have seen three cases of fatal meningitis in infants where the Pfeiffer bacillus was obtained in pure culture from the spinal fluid, with no previous history other than a slight cold. One of these cases even gave no history of having had a cold. Gastro-intestinal disturbances are frequent. Ears frequently and eyes occasionally show infection, sometimes primary, sometimes secondary. The ear infections have nearly always been mixed and assumes the form of an otitis media with occasional mastoiditis. Influenza in the eye is often of a serious nature especially when it has been allowed to run for some time without the proper attention. In such cases acute inflammation, sometimes photophobia, oedema of lids, and corneal ulcerations may result. Influenza pneumonia is by far the most serious complication and with a high mortality, especially do we find this true in our observations of the present epidemic. It must constantly be bourne in mind that apparent recovery leaves the patient's pulmonary tract in a weakened and damaged condition, an ideal ground for subsequent infection, not only for pneumonia but for tuberculosis as well. The latter case we have not of course been able to observe ourselves, but make the statement from the observations of others.

Over a hundred thousand cases of influenza have been reported in New York City, in the past few weeks, but it must be bourne in mind that this is only a small fraction of the actual number of cases, as probably not one third come before a physician for attention. Many of the poorer classes suffer from the disease in its milder forms and never come to even a free clinic for medical attention.

From the sources available we have gathered the following statistics for the past six weeks.

Deaths from influenza with associated pneumonia and bronchitis in New York City:

Week Ending	Deaths
December 11, 1915	194
December 18, 1915	215
December 25, 1915	311
January 1, 1916	375
January 8, 1916	393
January 15, 1916	442
Total	1930

It is to be noticed that the death rate has been increasing steadily since the first week in December. Comparing the first week in January, 1916, with the first week in the three previous years we note the following increase from the above causes.

First Weeks of January	Deaths
1913	264
1914	254
1915	211
1916	393

New York City health officials have not been asleep to the great problem now facing them, and are bending every effort to check the further ravages of the disease. Adequate sanitary laws are already on the statute books and it remains only for these laws to be enforced to combat intelligently the further spread of the disease. An active crusade against spitting on sidewalks and in public places is being carried out. Thousands of arrests have been made for this offense, frequently five hundred or more per day, but the fines have been ridiculously low. An encouraging fact is, that one magistrate has stated that he is increasing the fine from day to day, as the public are being educated to the seriousness of such an offense. Not only is spitting being frowned upon, but sneezing as well. In public places posters are seen bearing the following inscription:

"Be sure and cover your sneezes,
Or you will certainly spread diseases!"

Much active investigation is being vigorously carried on in an effort to learn more about the specific organism which is now ever with us, and which is so frequently the incitant of serious diseases.

Let us hope that the public will look upon this question, which has now become a problem, with more intelligence in the future, and profit by the knowledge given them as the result of hard labor by physicians and bacteriologists, in order that we may better cope with this as well as other diseases which are constantly among us.

New York City, Jan. 20, 1916.

CORRESPONDENCE

TO THE EDITOR.

I want to urge the Colleagues in our district to tighten up now, man to man, see that your annual membership dues are paid on time, so that we have just as great if not greater representation at the next house of Delegates at the annual Convention that meets in Charleston in April, as we ever have had. Gentlemen, keep in touch with the Dynamo, keep your contact perfect. Don't you know if the connection is not perfect, you become grounded, and your power becomes dead? Do not let yourself become demagnetized, what we want, what the world loves, is a live wire.

I want to see our district composed of Abbeville, Greenwood, Laurens and Newberry, ranking at her respective place, one of the banner districts of the State. Help me, fellows, every one of you, to show this report at our next meeting.

With fraternal regards,
T. L. W. Bailey, Councilor,
Clinton, S. C.

SOCIETY REPORTS

CHARLESTON.

The paper of the evening was read by Dr. Attmar Smith on the subject of Pellagra in Charleston. This paper is the result of a careful study of Pellagra by Drs. W. A. Smith, H. L. Mustard, and R. M. Pollitzer in the clinical wards of Roper Hospital, the outside dispensary department and the city in general. The paper was both interesting and instructive. It tended to show that Pellagra was of very frequent incidence in Charleston and that the mortality from it was greater there than from Tuberculosis.

The paper was also of a Statistical nature and will be published in full in the Journal.

Dr. Hayne, the State Health Officer, was present and spoke on the subject, as well as upon many other topics of public health. The discussion was very general. Dr. Lynch stated that autopsies of these cases showed an inflamation of the small intestines.

The various theories and ideas as to the causation of Pellagra was gone over again but nothing new as to an explanation of its cause was advanced.

Respectfully submitted,
Albert Nathan, M. D.,
Jan. 15, '16. Secy.

GREENVILLE.

Greenville County Medical Society held its regular monthly meeting December 6th, 1915, and elected the following officers for 1916:

President, Dr. R. E. Houston, Greenville, S. C.

Vice-President, Dr. H. T. Shaw, Fountain Inn, S. C.

Secretary, Dr. John W. Parker, Greenville, S. C.

Treasurer, Dr. R. C. Bruce, Greenville, S. C.

Delegate State Medical Association, Dr. T. R. Wilson, Greenville, S. C.

The Society decided by unanimous vote to hold its meetings monthly instead of bi-monthly as in the past. The first in each quarter to be held at different parts of the county.

The January meeting of Greenville County Medical Society was held at Simpsonville, S. C., January 10th, 1916, with Dr. Shaw presiding.

The High School complimented the Society with music and recitations. The program for the day was an address by Dr. Adams Hayne who was detained by illness in his family. The following impromptu program was given:

Tooth brush drill, Dr. G. T. Tyler.

Care of the teeth, Dr. T. R. W. Wilson.

Diseased Tonsils, Dr. L. O. Mauldin.

Some work of the Board of Health, Dr. C. B. Earle.

Dr. Moore of Greenville was elected a member of Society.

Dr. Tyler reported on Obituary.

Dr. R. E. Houston has returned after a month's stay in Florida.

John W. Parker, Sec.

LAURENS.

The Laurens County Medical Association held its regular bi-monthly meeting on Monday afternoon of this week in the office of Dr. R. E. Hughes. The attendance was good and a most excellent program caried out.

By special invitation Dr. E. A. Hines of Seneca was present and in his usual happy style delivered an interesting address on "Suggestions for Improvement of County Societies and Hospitals in 1916." His address was listened to with the keenest interest.

Dr. Isadore Schayer, an ex-member of this society, but who is now living in Columbia, was present, by invitation, and read a very excellent paper on "Diagnosis of the More Common Skin Diseases." The doctor's paper was thoroughly discussed by the large number present.

At the conclusion of the papers and discussions the officers for 1916 were elected as follows:

President: Dr. W. D. Ferguson.

Vice-President: Dr. R. R. Walker.

Sec. & Treas.: Dr. J. M. Bearden.

The delegates to the State meeting in Charleston in April were then elected. The delegates are: Dr. T. J. Peake of Clinton and Dr. R. R. Walker of Laurens. Alternates, Dr. E. C. Rodgers of Grey Court and Dr. Hayes of Clinton.

J. L. Fennel, Reporter.

Jan. 27, 1916.

SPARTANBURG.

The Spartanburg County Medical Society held its first meeting of the year on January twenty-eighth. In the absence of the president and vice-president, Dr. W. M. Boyd presided.

The program for the day was a symposium on La Grippe. The leaders of the discussions were Drs. J. L. Jefferies, Baxter Haynes and L. Rosa H. Gantt, each taking a different phase of the disease.

As the attendance at the meeting was good and the majority discussed the subject, this was a very interesting meeting.

Dr. Martin Crook was elected a member of the Society.

L. Rosa H. Gantt,
Secretary.

SECOND DISTRICT MEDICAL ASSOCIATION.

St. Matthews, Jan. 25, 1916.

PROGRAM.

Meeting called to order at 11:30 A. M. by retiring president, J. J. Cleckly.

Prayer—Rev. J. L. Kirby, St. Matthews, S. C.

Presentation of newly elected President, Dr. L. C. Shecut, Orangeburg, S. C.

Address of Welcome—Dr. L. B. Bates, President Calhoun County Medical Society.

Response—Dr. D. K. Briggs, Blackville, S. C.

Address of President—Medical Preparedness, Dr. L. C. Shecut, Orangeburg, S. C.

Scientific Session

Paper—Diagnostic Problems, with Case Illustration, Dr. Julius H. Taylor, Columbia, S. C. (Invited guest).

Paper—Clinical Significance of Acute Abdominal Pain, Dr. J. J. Watson, Columbia, S. C. (Invited guest.)

Paper—The Present Status of the County Societies in the Second District, Dr. J. S. Matthews, Denmark, S. C. Councilor.

Report of Clinical Cases.

Business Session.

Dinner.

Adjournment.

Officers: Dr. Lin C. Shecut. Pres., Orangeburg; Dr. J. L. Copeland, Vice-President., Ehrhardt; Dr. Vance W.

Brabham, Sec. Treas., Orangeburg; Dr. J. S. Matthews, Councillor, Denmark, S. C.

DOCTORS AT WALTERBORO.

First District Association Has Interesting Sesson.

Walterboro, January 20.—Special: The First District Medical Association of South Carolina, held its semi-annual meeting here yesterday, a large number of physicians from several counties being in attendance and a very interesting programme was offered. The visiting doctors were entertained at dinner at the Hotel Albert at the conclusion of the exercises incident to their meeting. The following programme was ably rendered, much of which was illustrated with lantern slides:

"The Head of Cold," Dr. C. W. Kollock.

"The Hookworm," Dr. E. M. Routh.

"X-Ray Diagnosis," Dr. A. Robert Taft.

"Treatment of Inoperable Diseases," Dr. A. E. Baker.

Succeeding Dr. D. L. Maguire, of Charleston as president, and Dr. M. G. Elliott, of Beaufort, as vice president, Dr. L. M. Stokes of Walterboro, and Dr. J. B. Johnson, of St. George, were elected president and vice president, respectively. Dr. J. S. Rhame was re-elected secretary and treasurer. St. George was chosen as the next place of meeting and the meeting will take place in July. The following physicians were in attendance: J. B. Johnson and W. S. Judy, of St. George; D. L. Maguire, L. A. Wilson, E. C. Baynard, A. E. Baker, A. R. Taft, B. K. McGinnis, M. S. Moore, J. S. Rhame and Arthur Nathans, of Charleston; H. M. Carter, Smoaks; H. A. Willis, Hendersonville; B. G. Willis, Cottageville, C. M. Stokes, Riddick Ackerman, C. H. EsDorn and J. C. von Lehe, of Walterboro.

—News and Courier.

STATE BOARD OF MEDICAL EXAMINERS

QUESTIONS ASKED BY STATE BOARD OF MEDICAL EXAMINERS, IN SESSION, COLUMBIA, S. C., NOV. 14, 1915.

OBSTETRICS—Dr. E. W. Pressly, Examiner.

1. Name in the order of their occurrence the changes in the ovum from fecundation to the formation of the embryo proper.

2. Give symptoms and management of (a) an inevitable and (b) an incomplete abortion.

3. Name and describe the pelvic malformations and indicate the obstetrical management in case of pregnancy in each variety.

4. What is the perineum from the viewpoint of the obstetrician? What are its functions in parturition? How is it endangered in labor, what means should be adopted for its protection during labor and what are the late results of its laceration at this time?

5. What is meant by the term multiple pregnancy? How is it diagnosed prior to delivery, and what are its dangers?

6. Define the term version, give the etymology of the word, and name its varieties, give the indications for its performance, the dangers attendant

upon it, and describe the technique of doing one of the varieties of version.

7. Diagnose a transverse presentation at the close of the first stage of labor with membranes intact and give management for same.

8. Give management of the same presentation when seen late with membranes ruptured, with presenting part wedged into lower pelvis, with absence of funicular pulsation and with the woman showing signs of exhaustion.

9. Give causes, description, prognosis and management of an attack of eclampsia puerperalis.

10. What are the causes, symptoms, location, prognosis, and management of ruptured uterus?

MATERIA MEDICA, Junior Curriculum—Dr. H. L. Shaw, Exam.

1. Give dose of Trional, Sulfonal, and Chloral, to what class of drugs do they belong and when are they indicated?

2. Give dose and Therapeutic effect of (1) Infusion Digitalis, (2) Sulphate Codeine, (3) Apomorphine, (4) Salol, (5) Phenacetine.

3. What is the dose of Sodium Nitrite and Nitroglycerine, to what class of drugs do they belong and when indicated.

4. What is the dose of the following tinctures, (1) Veratrum, (2) Aconite, (3) Belladonna, (4) Digitalis, (5) Opium.

5. What is an Expectorant. Write a prescription containing one.

THERAPEUTICS, Senior Curriculum.

Give name, dose, interval between doses and therapeutic effect of drugs used in treating the following diseases:

(1) Catarrhal Jaundice. (2) Apoplexy. (3) Gastric Ulcer. (4) Acute Chorea. (5) Broncho Pneumonia. (6) Ulcerative Stomatitis. (7) Erysipelas. (8) Bronchial Asthma. (9) Pyelitis. (10) Acute Tonsilitis.

PRACTICE OF MEDICINE.—Dr. J. J. Watson, Examiner.

1. What symptoms would you require to make diagnosis of Cerebellar tumor?

2. Give the causes, symptoms and physical signs of Hemopneumothorax.

3. In what diseases is occult blood in the stools most likely to be found? Briefly give the diagnostic differences of the diseases mentioned.

4. Give a reliable chemical test for the detection of occult blood in the stools.

5. A man 20 years old consults you complaining of being annoyed both night and day by frequent passage of large amounts of urine, loss of flesh in spite of a good appetite and good digestion, and excessive thirst. What disease would you suspect? What examination would you make to confirm your suspicion? What would be your prognosis?

6. Describe a case of Acute Pyelitis. State the diseases with which it might be confounded and give their diagnostic differences.

7. What findings would you require, both Clinical and Laboratory, to make a diagnosis of Typhoid Fever?

8. Differentiate Psoriasis from Exzema.

9. What are the causes of Hypertension? (High blood pressure)? What is the normal blood pressure for adult male 30 years old?

10. Describe Babinski's reflex. How is it elicited? What does it signify?

ANATOMY, Junior Curriculum.—Dr. J. T. Taylor, Exam.

1. Name the ligaments of the knee joint and give its blood supply.

2. Describe the first Cervical Vertebra.

3. Describe the lungs.

4. Name the bones of the foot.

5. Name the branches of the Abdominal Aorta.

SURGICAL ANATOMY. Senior Curriculum.

1. Locate the Auditory Area.
2. Which two bones are the most frequently fractured? Why?
3. Where is the Median nerve most frequently injured? Why?
4. In clearing out the Axilla, what nerves are certain to be encountered? If division of them occurs, what is the result?
5. When the Umbilicus is tied and cut, what structures are severed, what changes take place in them and what complications may occur?
6. Give the blood supply of the stomach.
7. Describe the muscular pelvic floor.
8. Describe the Collateral Circulation when the external iliac artery is tied.
9. Describe the displacement in a Colle's fracture and give the causes for same.
10. What are the anatomical advantages and disadvantages of the Battle and the McBurney incisions for an appendectomy?

BACTERIOLOGY AND PATHOLOGY Junior Curr.—Dr. John Lyon, Exam.

1. Describe the morphological, staining and culture peculiarities of the Gonococcus.
2. What peculiarities characterize spore forming bacilli?
3. Describe the pathology in acute poliomyelitis.
4. What general pathological conditions characterize interstitial nephritis?
5. What are the blood changes in (a) Secondary Anemia? (b) Pernicious Anemia?

PEDIATRICS. Senior Curriculum.

1. Give the symptomatology of scarlet fever. What are its most serious sequela?
2. Describe a case of rheumatism in a child 4 years of age. How would you treat it? What complication would you expect?
3. Give the symptoms and treatment of lobar pneumonia in a 3 year old child. With a prolonged elevation of temperature, what complication would you suspect?
4. Give the pathology, symptoms and treatment of morbus coxarius (Tuberculosis of hip joint).
5. Write a formula containing cow's milk for a healthy baby six (6) months of age and weight 16 lbs. Give the amount and hours of feeding.

GENECOLOGY.

1. Give the etiology, symptoms and treatment of chronic endocervicitis.
2. Name the varieties of uterine fibroids. Give the symptoms and physical signs of each variety.
3. How would you diagnose and treat acute pelvis cellulitis? What is its usual cause?
4. Describe the technique of an operation for vesico-vaginal fistula.
5. Give the treatment of Gonorrhoeal vulvo-vaginitis. What grave complications usually follows this disease?

SURGERY.—Dr. Harry W. Wyman, Examiner.

1. Give etiology and symptoms of tetanus. In what injuries is it most liable to occur and how prevented in injuries.
2. Give symptoms of acute thyroidism, when there was not much enlargement of the gland or protrusion of eyes. When would operation be advisable and when not?

3. In what tissues are the various suture materials used? Discuss time for dressing of wounds after operation and time for removal of stitches. Describe the usual drains.

4. Disarticulate arm at wrist joint giving various steps of operation.

5. Open a deep abscess on inside of arm just above elbow giving detailed steps and reasons.

6. How would you clean a dirty, greasy limb where stitching is necessary and what stitches would you use?

7. Treat a fracture of the shaft of femur in a child six years old.

8. A pistol bullet has entered knee from front, gone through patella with displacement of fragments, struck upper end of articular surface of tibia and lodged under skin over internal tuberosity. Give treatment.

9. Give symptoms of intussusception in a baby. When would you operate and describe operation.

10. Relieve a paraphimosis and circumcise.

PHYSIOLOGY.—Dr. A. M. Brailsford, Examiner.

1. Give the physiology of the vasomotor nerves.

2. Describe the vermicular movements of the stomach and intestines.

3. (a) What are the factors concerned in the heart-sounds? (b) Describe a complete physiological revolution of the heart.

4. (a) Where is the center of respiration situated? (b) Describe its automatic action.

5. Discuss the function of the kidneys.

HYGIENE, SANITATION, STATE MEDICINE.

1. Discuss disease and disorders in connection with organic pollution of water.

2. (a) What is meant by soil-pollution? (b) How may it be prevented? Mention the diseases due to the pollution of soil.

3. (a) What are the natural forces in ventilation? (b) In inspecting a school or factory, how would you determine whether it was properly ventilated?

4. What are the effects and influences of vegetation upon the soil?

5. (a) What is the percentage composition of cow's milk? (b) What constitutes good, wholesome milk?

6. (a) Mention four methods of sewage disposal. (b) Describe the septic tank method.

7. (a) Name the tropical diseases. (b) Discuss tropical Hygiene.

8. (a) What are disinfectants? (b) Describe room disinfection.

9. What do you understand by the terms "Infection" and "Contagion"?

10. Discuss Immunity.

CHEMISTRY. Junior Curriculum. Dr. A. Earle Boozer, Examiner.

1. What is combustion?

2. Give chemical cause of spontaneous combustion.

3. What is the lightest of all known elements? Give (a) its chemistry. (b) the combination in which it is commonly found.

4. What is the composition of a good home-made baking powder? What is the mode of action? How adulterated?

5. What is the use of the constant Galvanic current in Medicine?

URINALSIS, MICROSCOPY, TOXICOLOGY & MEDICAL JURISPRUDENCE. Senior Curriculum.

1. What is the normal elimination of urea? Give causes and treatment of deficiency in excretion of urea.

2. What are the characteristics of the urine in a case of Diabetes Mellitus?

3. Give in detail a reliable test to confirm your diagnosis of Diabetes Mellitus.

4. What are the diagnostic uses of the microscope in the hands of the general practitioner?

5. What are the symptoms and treatment of opium poisoning? With what may it be confounded?

6. Differentiate tetanus and strychnine poisoning.

7. Give symptoms and treatment of poisoning by mineral acids.

8. How would you distinguish feigned from real insanity?

9. In suspected criminal abortion how would you determine whether pregnancy had existed?

10. What precautions are necessary for a physician to obtain an acquittal in a suit for malpractice?

NURSES. OBSTETRICS.—Dr. E. W. Pressley, Examiner.

1. Define (a) pregnancy (b) parturition (c) puerperium.

2. Give preparation for the use of forceps in labor.

3. Explain the frequent necessity for catherization after labor and describe the technique of this operation.

4. Given a patient a few hours after delivery who complains of almost constant and severe cramping pains, who has a quickened pulse, whose uterus is found extending upward to the epigastrium, and whose lochial discharge is diminished, what is the matter and how would you go about remedying it.

5. Describe the management of the first week of a normal puerperium.

6. Give directions for making a laxative enema, containing oil and turpentine and arranging for their miscibility, suitable for use in a woman one week before expected confinement.

7. What is the essential difference between the foetal and adult circulations.

8. Give cause, course and management and prognosis of opthalmia neonatorum.

9. What are the mechanical causes of umbilical hemorrhage, and what the appearance of an umbilical hernia in the new born, give management of each condition.

10. Describe the methods to be used in resusitating a child born asphyxiated.

NURSES. MATERIA MEDICA AND THERAPEUTICS.—Dr. H. L. Shaw.

1. Mention six modes of administering drugs to a patient.

2. What care should be observed in giving a Hypodermic injection?

3. Name and define a (1) Deodorizer, (2) Antiseptic, (3) Germicide or Disinfectant.

4. Define, name and give dose of each of the following: (1) Cathartics, (2) Cardiac stimulants, (3) Diuretics, (4) Emetics, (5) Antipyretics.

5. How would you treat a case of nausea and vomiting?

6. What would you do for "Muscular Rigidity" in a patient suffering with Hysteria?

7. What is the Therapeutic effect of a saline injection. Tell how to give one subcutaneously.

8. Typhoid case, suffers with Insomnia, what would you give?

9. If nursing a case of Typhoid fever in the 3rd or 4th week the patient has sudden pain in the abdomen, drop in temperature, and rise of pulse, what would you suspect was the matter and what would you do?

10. What is Diaphoresis? (1) How would you produce same? (2) How would check same?

NURSES. PRACTICE OF MEDICINE.—Dr. J. J. Watson, Examiner.

1. What symptoms would cause you to suspect Spasmodic Croup?

2. In the absence of a physician what

would you do to relieve a child suffering from Spasmodic Croup?

3. Mention two diseases in which Otitis Media is most likely to occur.

4. What precautions would you use to prevent the occurrence of Otitis Media?

5. Make a Chart, A. M. and P. M. Temperature, Pulse and Respiration for a case of Lobar Pneumonia, ending by crisis on the 7th day.

NURSES. ANATOMY.— Dr. J. T. Taylor, Examiner.

1. Name the bones composing the shoulder.

2. Name the bones of the wrist.

3. Name the bones forming the pelvis.

4. Name the arteries through which the blood flows in passing from the heart to the foot.

5. Name the veins through which the blood returns to the heart from the foot.

6. Name the nerves of seeing, hearing, smelling and tasting.

7. By what muscle is the forearm flexed, by what extended?

8. Give the length of the Alimentary Tract and name its divisions.

9. How many ribs are there? Which are attached directly to the Sternum, which are attached to the rib above? Which are only attached to the vertebral column?

10. Show by diagram of cross lines the regions of the abdomen.

(Continued Next Week)

BOOK REVIEW

SURGICAL OPERATIONS WITH LOCAL ANESTHESIA.—Second Edition, by Arthur E. Hertzler, A. M., M. D., Ph. D., F. A. C. S. Surgeon to the Halstead Hospital, Kansas, Sweedish Hospital, Kansas City, Mo., General Hospital, Kansas City, Mo. 327 Pages; 173 Illustrations; Cloth Bound, Price $3.00. Surgery Publishing Company, New York.

The rapid sale of the first edition covering minor surgery and the demand for a more complete work upon the subject covering both major and minor surgical work, has induced Dr. Hertzler to present this second volume, which for completeness as to detail and price we believe places it in a class by itself among those text books upon this most interesting and growing subject.

Dr. Hertzler's vast surgical experience and his work with Local Anesthesia particularly fits him as an authority upon this subject and thus the second edition of his book places within the hands of the doctor a manual which for completeness and comprehensiveness, particularly recommends it.

From a review of this book Dr. Hertzler seems to have overlooked no point of major or minor importance. The large number of illustrations clearly places up to the eye of the reader the text of the book and both the general practitioner and surgeon will appreciate this work as a reliable guide in their operation work under Local Anesthesia.

THE CLINICS of JOHN B. MURPHY, M. D., at Mercy Hospital, Chicago, Vol. 3, No. 5, October, 1914. Published Bimonthly by W. B. Saunders Company, Philadelphia and London.

A large section of this volume is devoted to clinical talks on Diagnosis by Dr. Murphy. He takes up especially renal and ureteral stone. Malignant tumors of the kidney, Hematuria. Meningitis by Mix is interesting and illustrated. Prostatectomy is also discussed, giving Dr. Murphy's reasons for preferring the suprapubic over the perineal route. The case is that of a doctor 63 years of age and the points brought out are of great importance, disclosing the

clear indications as to when to operate and exactly how it should be done.

Dr. Murphy tells of his visit to Freer of London and speaks of the knowledge gained from the world's greatest master, in operations on the Prostate.

The relative values of radium and X-Rays in cancer are clearly set forth in the volume. Murphy does not admit that cancer is amenable to any but surgical treatment, as a rule, but concedes that radium and the X-Rays have a distince place in the treatment of certain phases of cancer pathology.

POST-MORTEM EXAMINATIONS. — By William S. Wadsworth, M. D., Coroner's Physician of Philadelphia. Octavo volume of 598 pages with 304 original illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, $6.00 net; Half-Morocco $7.50 net.

The author has given the profession an exhaustive resume of our knowledge of this subject and at the same time presented a vast amount of original work from over four thousand post mortems.

The book contains 598 pages and it is not one of the "dry as dust" books at all, but has been enlivened by extensive researches into the contributory sciences. In short, the author has rendered the profession a great service by offering a work that is practical for the use of any doctor called upon to conduct a post mortem and yet a service has been rendered to the art and science of the whole subject.

The illustrations are especially valuable, large numbers being original.

The publishers have done their work well. In conclusion we wish to call attention to the general neglect of these studies to our loss. We are confident that no single effort at our command would produce greater rewards than a consciencious pursuit of the study of the post mortem.

AMERICAN ILLUSTRATED MEDICAL DICTIONARY—(Dorland) New (8th) Edition Revised and Enlarged.—A new and complete dictionary of terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Veterinary Science, Nursing, Biology, and kindred branches; with new and elaborate tables. Eighth Revised Edition. Edted by W. A. Newman Dorland, M. D. Large octavo of 1135 pages, with 331 ilustiratons, 119 in colors. Containing over 1,500 more terms than the previous edition. Philadelphia and London: W. B. Saunders Company, 1915. Flexible Leather, $4.50 net; thum index, $5.00 net.

We believe that the Medical Dictionary does not have the recognition it deserves as a part of the doctor's library as a rule. Some of them are, to be sure, not very interesting but the one under review is an exception. The author has succeeded in creating a highly instructive book. The present is the eighth revision since 1900, and it is thorough, entirely new plates being made for it.

We would call especial attention to the large number of tests included and described in this volume.

The illustratons are very good and in most instances copied from the great masters. The book is beautifully bound in flexible leather.

We have used this dictionary many years with entire satisfaction and heartily commend it.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE.—Twelfth Edition Thoroughly Revised. By James M. Anders, M. D., Ph. D., LL.D., Professor of Medicine and Clinical Medicine; Medico-Chirurgical College, Philadelphia. Twelfth Edition Thoroughly Revised. Octavo of 1336 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, $5.50 net; Half Morocco, $7.00 net.

Anders continues to occupy the field as one of the most popular books on Internal Medicine.

The author has endeavored to be a real help to the physician in his daily work at the bedside.

Therapeutics has been given a large place. This revision is complete. Some of the new matter introduced embraces:

Sections on Colon Bacillus Infections; Large-cell Splenomegaly; Tuberculosis of the Thyroid Gland; Vagotomy, and Hypophyseal Obesity. The subjects partly rewritten and also the more important additions are the following: Diabetes Mellitus; Hydrothorax; Gastro-enteroptosis; Acute Anterior Poliomylitis; Role of the Cockroach in Spread of Cholera; Glycytryptophan Reaction in Cerebrospinal Meningitis; Neosalvarsan; Schick's Test for Antitoxin in blood in Diphtheria; Complement-deviation Test in Pertussis;

d'Espines Sign in Tuberculosis of the Bronchial Lymph-glands; Phenolsulphonephthalein Test in Nephritis; Splenectomy in Pernicious Anemia; Chronic Pericholecystic Adhesions in Gall-stones; Barany and Neumann's Test in Diagnosis of Labyrinthine Diseases.

BONE-GRAFT SURGERY.—By Fred H. Albee, M. D., F. A. C. S., Professor of Orthopedic Surgery at the New York Post-Graduate Medical School and the University of Vermont. Octavo volume of 417 pages with 332 illustrations, 3 of them in colors. Philadelphia and London: W. B. Saunders Company, 1915. Cloth $6.00 net; Half Morocco $7.50 net.

Perhaps no field of surgery has advanced so rapidly as this in recent years. Dr. Albee has not only succeeded in making a distinct place for himself in this country on account of his original ideas and work but has been recognized abroad as a master in bone surgery.

The author's book is entirely new. His successful treatment of Potts Diseases is known all over the world as a bold means of correcting this deformity and greatly shortening the time of recovery, over the older methods. Many other bone diseases are described including the treatment of fractures.

The illustrations are numerous and excellent.

BANDAGING.—By A. D. Whiting, M. D., Instructor in Surgery at the University of Pennsylvania. 12mo of 151 pages, with 117 original illustrations. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, $1.25 net.

This is a very concise and easily understood work. The illustrations make up a strong feature, as they should in a book on this subject.

The author gives explicit instructions in regard to making different kinds of bandages.

THE MEDICAL CLINICS OF CHICAGO.—January, 1916, Volume 1, Number 4. Published Bi-monthly by W. B. Saunders Company, Philadelphia and London. Copyright, 1916, by W. B. Saunders Company. All rights reserved. Published bi-monthly, six numbers a year. By W. B. Saunders Company, West Washington Square, Philadelphia. Price per year, $8.00 (Foreign) 35 Shillings.

We would call attention to the excellent article by Tice on Epidemic Cerebro Spinal Meningitis at the Cook County Hospital. The details of lumber puncture and the treatment are clearly described.

Pneumonia has been presented by Mix at Mercy Hospital giving the modern management of that disease. Mix advises against the use of poultices especially so-called Denver Mud, but suggests the pneumonia jacket because of the greater use of fresh air than formerly. Few drugs are advised, viz: strychnia, aromat, spt. ammounia, digitalis, camphorated oil or ether hypodermatically. Infantile La Grippeby Abt at Michael Rees Hospital is good also and very appropriate at this time.

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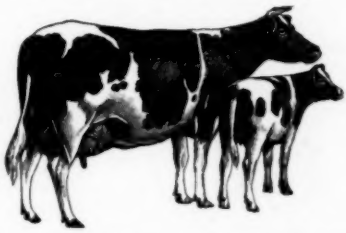

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Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.

Annual Subscription, $2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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EDITORIAL

Acidosis.

For several years the subject of acidosis has engaged the attention of physiologists and chemists. Recently, however, it has become of practical importance to the clinician. While the occurrence of acidosis as a complication, especially in diabetes mellitus, is well known yet as an apparently primary condition or clinical entity it now deserves more notice. During part of December, 1915, and January, 1916, a large number of cases occurred in Boston and several Massachusetts' towns notably Belmont, Brooklyn and Cambridge. Very many cases were reported and undoubtedly from the clinical history and their general similarity the diagnosis was correct, at least in the majority. Concurrently with this epidemic, influenza and pneumonia were in full sway in the same section. However Dr. Metcalf (1) of Concord, N. H., who originally gave the classic description of acidosis does not believe that there is any connection. Probably there were about 100 cases and of these, many died. In the five cases observed by the writer the following facts were noted:

Age two years, four months, to four years, six months; duration two to four days; two cases had high leucocyte counts, there was constant vomiting, even of water, in all for one, two, three or four days and the bowels did not move. In two cases there was history

(1) Boston Medical and Surgical Journal, Vol. LLXXIV. No. 21.

of recent mild grippe and one had redness and swelling of tonsils. The patients were either very restless or drowsy. In one coma came on early. The urine persistently showed acetone and diacetic acid. Physical examinations were negative except for a slight nasal discharge in one and tonsilla redness in another. Death occurred in two. A complete autopsy was done upon one, but no cause for death was found. Another case which was at first considered acidosis, proved to have a pus appendix, which was seen on the operating table.

The dagnosis is difficult because many other conditions must first positively be excluded. It would seem however, in general that in a child with persistent vomiting whose urine contains acetone and diacetic acid and where the physical examination is negative we are justified in concluding that we are dealing with a case of acidosis. On the other hand it must be remembered that in the urine of most children upon the onset of an acute infection such as pneumonia or meningitis, acetone is commonly present. But persistent vomiting is not seen and symptoms and signs of some disease are obtained. As to whether acidosis is a clinical entity or a symptom complex cannot yet be positively stated.

Tonsils.

(*Continued From February Issue*)

Before discussing the operative technique, let us consider briefly the regional anatomy of these organs. They are two lymphoid masses placed in a fossa on either side of the fauces at its junction with the pharynx, the lower end of each gland reaching to the level of the tongue. These fossae are known as the tonsillar fossae. The normal tonsil is approximately 1 inch by 1-2 inch as seen in a child of about six years. Before this time it probably does not reach its full development and soon after this age, under normal circumstances, it begins to atrophy. Its structure is similar to other lymphoid tissue. It is 3-4 surrounded by a firm connective tissue capsule, derived from facia which descends from the base of the skull. This fascia sends in numerous trabeculae which constitute the frame work of the gland. The oral surface of the tonsil is covered with stratified epithelium which dips down into the tubules of this compound gland, these tubes are called crypts and are the source of much trouble. They serve as reservoirs for the accumulation and retention of bacteria, dead cells, excretion, food and detritus in general. These masses become irritating either thru the process of fermentation and decomposition or simply in a mechanical way as any foreign body would. Irritation leads to inflammation which frequently seals the mouths of the crypts and then we find a closed cavity with more or less septic contents.

The lympathics now assume the burden of the disposition of the miniature cess pools and a campaign of invasion is waged against a defensive organization. If the lymph nodes win out systemic infection is modified, if not entirely prevented. While the nodes are frequently able to prevent the passage of bacteria, they are not able to prevent the various toxins from finding their way into the general circulation. It is maintained by some investigators that a violation of the integrity of the cryptal epithelium is not necessary for the passage of bacteria. While this is probably true, we are most concerned with the identification of grossly degenerate tonsils which are escaping the attention of so many of us at present.

The tonsillar fossae are depressions formed between the anterior and posterior pillars of the tonsil, these pillars

are formed of palato—glossus and palato-pharyngeus muscles which are covered with mucous membrane. Their function is to constrict the isthmus of the fauces, shutting off the mouth from the pharynx in some acts of phonation, to thrust the tonsils toward the middle of the fauces at the same time compressing them and causing the crypts to disgorge. Inflammation of the tonsils and contiguous parts cause more or less firm adhesions of these pillars, thus interferring with and at times almost abolishing their important function.

The plica tonsillaris is a fold of normal mucous membrane which partially envelopes the anterior surface of the tonsils and which should disappear at about 2 years of age. Because of disease this membrane sometimes hypertrophies and bridges over the space between the anterior and posterior pillars more or less completely. This condition together with adhesion of the free borders of the pillars constitute submerged or buried tonsils, prevents the escape of the cryptal contents and for this reason this type of tonsil is more troublesome and more frequently demands removal than the type where the orifice of these crypts are unobstructed.

Blood Supply.—This comes chiefly thru the tonsillar branch of the facial artery. This branch splits up before penetrating the capsule and its branches follow the connective tissue trabeculae of the capsule and supply the middle part of the gland.

The lingual artery furnished a branch which supplies the lower portion, some of the branches of this artery penetrate the lowest anterior part of the capsule and are at this point very difficult to ligate. The ascending pharyngeal and internal maxillary also send branches, these are not as constant as the others. At times just external to the capsule we find a rich plexus of veins and arteries forming a profuse anastomosis.

Lymphatics.

The deep lymphatics of the nose and some of the lingual lymphatics drain into the tonsils. This is a source of infection frequently overlooked in one's quest for causes of disease in these glands. The efferent lymphatics drain into the superficial and deep cervicle branches, these in turn empty into the jugular which in turn with the Subclavian chain finds its way into the Sup. Vena Cava. There is no fixed and constant direction in the lymph circulation and for this reason one finds cervicle adenitis from tonsilar infection in varying groups of glands.

Function:

We believe that it has a three fold function, first a similar function to any other lymph node in the economy; second the production of lymphocytes, leucocytes and phagocytes plus the presence of some opsonin thus equiping this organ for defence against bacterial invasion. In this connection we know that a very large percentage of infection during childhood find entrance thru the lymphatics of the nose and throat, that the normal tonsil serves its destiny in the early years of life (before 6 years) and then begin to atrophy. If it fails to perform its mission it remains as a degenerate organ thru out the greater part of life. Therefore, its purposes is primarily related to development of the individual in its early years. A third function is its influence on voice production.

Conclusions.

Normal tonsils are in no way prejudicial to health, but on the contrary they may be helpful both in directing the action of the neighboring muscles and in modifying the resonance of the oral cavity.

Degenerate tonsils are prejudicial to phonation primarily because they are prejudicial to health, and secondarily, because they interfere with the action of important vocal organs, by setting up a catarrhal condition in the oropharynx, which results in hypertrophy of the faucial pillars, the plica and capsule and in numerous inflammatory adhesions binding all these parts together in one conglomerate mass.

The two important indications for the tonsil operation are to remove foci of infection and to increase or restore the functional efficiency of the respiratory, phonatory and articullatory organs; and the operation that fails to meet the requirements of these two indications is more or less of a failure.

The tonsil that requires removal is always prejudicial to vocal excellence; but to do a little good in an operation one should take heed lest he do great harm.

(To be continued.)

Provisional Program; Meeting of the South Carolina Medical Association, Charleston, April 18, 19, 20th.

(Subject to rearrangement for final program, which will be issued about April 10th).

The Charleston Hotel will be Association Headquarters. Rates $1.50 per day and up. European Plan.

Chairman of Committee of Arrangements—Dr. R. S. Cathcart.

The House of Delegates will convene at 10 A. M., Tuesday, April 18th.

(Delegates should be sure to provide credentials).

There will be two general entertainments, one on the night of April 18th for the House of Delegates and a general reception on the night of the 19th for the members of the Association and the accompanying ladies. A series of clinics will be given at the Roper Hospital, at suitable hours.

Address in Medicine by Dr. L. F. Barker, Baltimore, Md.

Address in Surgery by Dr. W. J. Mayo, Rochester, Minn.

Address in Pediatrics by Dr. Maynard Ladd, Boston, Mass.

1. The Need of and How to Obtain a Hospital in Every County in South Carolina—Dr. L. H. Jennings, Bishopville, S. C.

2. Intestinal Obstruction With Report of Cases—Dr. H. W. Rice, Columbia, S. C.

3. Practical Suggestions on Infant Feeding for the General Practitioner—Dr. W. P. Cornell, Charleston, S. C.

4. Five Successful Cases of Broncho-Esophagostomy—Dr. E. W. Carpenter, Greenville, S. C.

5. Some Interesting Cases of Foreign Bodies in the Ears and Nostrils of Children—Dr. L. O. Mauldin, Greenville, S. C.

6. Venereal Disorders; Causes, Prevention and Treatment—Dr. M. H. Wyman, Columbia, S. C.

7. The X-Rays in the Diagnosis of Focal Infections—Dr. R. W. Gibbes, Columbia.

8. The Use and the Abuse of the Uterine Curette—Dr. George Bunch, Columbia.

9. Conquering Medicine and Surgery—Dr. R. T. Ferguson, Gaffney, S. C.

10. A Rational Treatment of Cardio-Nephritic Cases—Dr. N. B. Heyward, Columbia.

11. Teratoma—Dr. H. R. & Dr. S. O. Black, Spartanburg, S. C.

12. Indirect Transfusion of Blood, Its Indication and Technic—Dr. J. J. Watson, Columbia, S. C.

13. The Feeble Minded vs. The State—Dr. A. B. Patterson, Barnwell, S. C.

14. Tonsillectomy Prevention of

Hemorrhage—Dr. E. F. Parker, Charleston, S. C.

15. Treatment of Inoperable Cancer of the Uterus—Dr. A. E. Baker, Charleston, S. C.

16. Hematuria From a Diagnostic Standpoint—Dr. C. F. Ross, Anderson, S. C.

17. The Physician in Relation to Our Penal and Charity Problem—Mr. A. S. Johnson, Columbia, Secretary State Board of Charities and Correction.

18. The Schick Reaction in Diphtheria—Dr. Theo. M. DuBose, Columbia, S. C.

19. The Home of and Some of the Results of Uncured Head Cold—Dr. Charles W. Kollock, Charleston, S. C.

20. Subject Unannounced—Dr. E. C. Baynard, Charleston, S. C.

21. Cesarean Section, Indications, Technic, Case Reports—Dr. J. R. Young, Anderson, S. C.

22. Subject Unannounced—Dr. G. T. Tyler, Greenville, S. C.

23. Observations on Affections of the Posterior Urethra—Dr. W. R. Barron, Columbia, S. C.

24. Give the Baby a Square Deal—Dr. S. A. Visanska, Atlanta, Ga.

25. Significance of Chill Fever and Sweat—Dr. W. J. Burdell, Lugoff, S. C.

26. The Rontgen Diagnosis of Lesions of the Alimentary Tract (lantern slides)—Dr. A. R. Taft, Charleston, S. C.

27. Topographical Anatomy in Relation to Clinical Medicine Diagnosis and Surgery — Dr. W. Cyril O'Driscoll, Charleston, S. C.

28. Certain Aspects of Bone and Joint Surgery—Dr. Julius H. Taylor, Columbia, S. C.

29. Should Tonsils be Removed—Dr. W. P. Porcher, Charleston, S. C.

30. Hemorrhage of the Newly Born: With Report of a Case—Dr. H. L. Shaw, Fountain Inn, S. C.

31. Antipyretics — With Especial Reference to the Coal Tar Products—Dr. Wm. Egleston, Hartsville, S. C.

32. One Year's Experience with the Model Vital Statistics Law in South Carolina—Dr. James A. Hayne, Columbia, S. C.

33. Two Cases of Sudden Death Associated with Enlargement of the Thymus, Occuring in the Same Family—Dr. A. M. Brailsford, Mullins, S. C.

34. In Cases of Symptoms Without Gall Stones, What Disposition Shall Be Made of the Gall Bladder—Dr. Le Grand Guerry, Columbia, S. C.

35. Acute Pneumococcic Hepatitis as a Complication of Croupous Pneumonia in the Negro—Dr. Kenneth M. Lynch, Charleston, S. C.

36. Psychiatric Aspect of Pellagra —Dr. W. C. Sandy, State Hospital for the Insane, Columbia, S. C.

The Charleston Meeting: Provisional Program.

In this issue will be found the Provisional Program for the meeting of the sixty-eighth annual session of the South Carolina Medical Association at Charleston, April 18th, 19th and 20th. The House of Delegates will convene as usual, on the morning of Tuesda,, the 18th, at 10 A. M. The Charleston Hotel has been selected as the official headquarters and meeting place. The idea of making a special effort towards an invitation to the wives, daughters and sweethearts of the members to attend, as outlined in the Journal some time ago met with immediate approval by the membership throughout the State. The profession in Charleston, therefore, will make special provision for the entertainment of the ladies. In taking this step, we belieeve that we are doing something we should have done perhaps, years ago. We have in mind a state society about the size of

ours, which for at least a century has made this feature of the program prominent and many other state societies do likewise. We will not publish this year the usual cuts of Institutions and places of interest for these do not need any introduction to our members. Charleston's fame as a hospitable city and very many of her institutions, are older than the Association itself. We concluded therefore, that the four or five hundred members, who cannot be present at the meeting would appreciate an early issue of the Journal, immediately following, giving the news while it is fresh. An official program will be sent to each member, when all the final arrangements shall have been completed, about April the 10th. Another departure, which will mark our progress will be special clinics for the members, at suitable hours. We are delighted to announce this fact for leading societies all over the world are fast getting away from purely "paper reading" programs and the Journal has fostered this trend of events repeatedly. The Charleston profession has taken the initiative so far as the State Association is concerned and be assured that whatever they undertake along this line will be creditably carried out.

Dr. R. S. Cathcart is chairman of the committee of arrangements for the entire meeting.

Reservations may be made direct at the Hotel headquarters.

ORIGINAL ARTICLES

VACCINES FROM THE CLINICAL STANDPOINT.

By Theo. M. DuBose, Jr., M. D.
Columbia, S. C.

TO intelligently judge the clinical results of any form of therapy, it is essential that regard be had for those cases in which the treatment is not applied. It is a well known fact that most diseases tend to recover spontaneously, and in many cases in spite of the treatment. We have all at one time or another realized the truth of the old saying: "Nature cures the disease, while the remedy amuses the patient." Therefore it is only when large groups of cases, accompanied by an adequate number of control cases are available, that any true evidence of the efficacy of a remedy can be obtained.

Read before the South Carolina Medical Association, April 21, 1915, Greenwood, S. C.

The scientific date which gave birth to vaccine therepy, was the demonstration by Wright and Douglass of the relations of opsonin content of the serum to phagocytosis in health and disease. Any discussion of the work of these men, or of the vast amount of pioneer work that their theories stimulated, is beyond the scope of this paper. Suffice it to say that many extravagant claims were made, which the test of careful scientific study has disproved to a large extent.

Theoretically vaccines are limited to the treatment of chronic and sub-acute infections, and accordingly, many excellent authorities prohibit their use in all other conditions. However, in certain acute infections, e. g., infected traumatic wounds and puerperal sepsis, their use has been proved justifiable, by the testimony of a goodly number of investigators, using carefully graduated doses of autogenous vac-

cines. (1) Such trials should be confined to experts, however, and the general practitioner should avoid the treatment with vaccines of acute generalized infections, lest he, through ignorance, overturn the delicate balance by imposing a negative phase and thus do more harm than good. (2) On the other hand, in chronic infections where the reaction of the patient is sluggish, and an exact bacteriological diagnosis has been possible, much good may be accomplished by the administration of a properly prepared vaccine, and the chances of doing harm are correspondingly small.

The commercial exploitation of this new field of medicine is one of the main factors that accounts for the rapid evolution of this form of therapy from a specialized to a generalized pursuit. And that this evolution has brought much discredit to vaccine therapy, through the extravagant claims of manufacturers for their products and the effects of such claims on the gullible physician, is only too apparent.

Whenever possible, autogenous vaccines should be used in preference to stock vaccines, for none can deny that this variety of vaccines is the more scientific, in that the invading organism is cultured directly from the patient and made into a vaccine, thus insuring not only the proper organism but the exact strain.

The Committee on Pharmacy and Chemistry of the American Medical Association, reporting on Bacterial Vaccine Therapy, had the following to say relative to the shortcomings of commercial stock vaccines:

1. Uncertainty of Source of Culture: These laboratories depending on outside sources for cultures, are rarely able to learn anything definite as to what complicating factors exist in a given case; thus a culture of streptococcus may be yielded from an ulcer, which subsequent events will show to be of syphilitic origin.

II. Uncertain Age of Culture: Just how long a culture of pathogenic bacteria will retain its specific immunizing property is not definitely known. It is known, however, to deteriorate with age.

III. Uncertain Potency Period of Market Vaccines and Suspensions: The uncertain influence of time applies to the therapeutic value of ready prepared vaccines.

IV. Possibility of Dangerous Contamination: For example, the contamination of the vaccine during or after preparation with street dust containing Tetanus.

V. Uncertainty as to Dosage.

VI. Vaccines of Questionable Identity: .Critical analysis of commercial vaccines, claiming to contain the more uncommon bacteria, have revealed serious mistakes in identification.

VII. Complicated and Expensive Containers. (3) The use of the so-called "mixed vaccines" is a step farther away from the underlying principles of specific therapy. If the condition under treatment is due to infection with a single organism, the component parts of the mixed vaccine are without specific relation to the infectious process, and by its use, the aggressiveness of the invading organism is as likely to be increased as diminished. This is analogous to the, now almost obsolete, "shot-gun" prescription, and their continued use is an admission on the part of the physician, of his inability to make an exact diagnosis, or of his ignorance of the basic principles of this form of therapy.

The clinical use of vaccines may be broadly divided into the Prophylactic and Curative application.

As a prophylactic measure vaccines have been used in the following conditions: Typhoid, Scarlet Fever, (4)

Cerebro Spinal Meningitis, (5) and in Chicken Pox and Whooping Cough. (6) In only one of these, however, has the success of the treatment warranted universal application, and that is Anti Typhoid Vaccination. This treatment is now compulsory in all the large armies of the world, and its origin is of interest.

As early as 1886, Simmons and Frankel succeeded in immunizing animals against typhoid, but it was not until 1897, that A. E. Wright demonstrated the harmlessness of injecting dead typhoid bacilli into man. The present campaign of vaccinating against this disease dates from the publication of this work. In the Boer War the results of the vaccination were unsatisfactory and for a time the War Office discontinued the practice. Col. Leishman, of the British Army, however, opened up the subject again by announcing that the original vaccine of Wright had been over heated during its preparation and was inert. We have now reached the stage in preventative medicine, when it is possible to declare that we have at our hands a means of preventing typhoid that compares favorably with vaccination against small pox. It should be our duty to urge our patients, particularly the young people and children, to protect themselves against this dread disease. (7).

As a curative measure the use of vaccines has become wide-spread, and it will be necessary for us to limit our discussion to their application in the more important infections.

I. Staphylococci Infections. In the chronic and recurrent skin infections, such as pustular acne, furunculosis, and sycosis vulgaris, the proper use of a staphylococcus vaccine is of distinct value. The use of the vaccine in acute staphylociccic infections are folliculitis and impetigo, is a mistake as these conditions usually clear up readily in a short while under local treatment. (8)

II. Streptococcic Infection. The infectious character of Rheumatism and its allied conditions is now well established and the part played by the streptococ cus convincingly shown by Rosenow, who succeeded in growing the organism from the joint exudates in sixteen out of nineteen non-fatal cases. (9) The portal of entry into the blood is from some local focus of infection, such as, the tonsil, sinuses of the skull, alveola abscess, a chronic appendix or gall bladder, etc. It is essential in treating this class of maladies that the infected focus be located and removed, if possible. Following this the use of vaccine may be an aid in hastening recovery.

III. Typhoid Infections. In the treatment of typhoid fever, the accumulated statistics tend to show that there is no specific. (10) Here again we are faced with the question of how are we to expect good results when we seem to be adding fuel to the flames, by administering more bacterial protein, when the cells of the body are already busily engaged in combatting the poisonous protein groups, resulting from the destruction of bacteria in the body. On the other hand, in the localized infections incident to convalescence, such as, periostitis, cholecystitis, mastoiditis, and glandular suppuration, good results may be expected from the use of autogenous vaccines.

IV. Gonococcic Infections. E. E. Irons in his article in Forchheimers Therapeusis on Gonococcic Infections, sums up his investigations of the specific treatment of these conditions as follows:

(I.) There is no clear evidence that vaccines are of any benefit in the treatment of gonorrhea of the mucus membranes.

(II.) In the treatment of chronic

gonococcal infections, notably arthritis, the general impression seems to be that the clinical course of certain cases at least are favorably influenced.

V. Pneumococcic Infections: From the experimental standpoint it is difficult to find support for the efficacy of vaccine treatment in such an acute and relatively short disease as Lobar Pneumonia. Hirschfelder (11) is of the opinion that the results are variable. German investigators have paid but little attention to the active immunization of this disease. In America, however, a review of the results obtained, shows a mortality reduction of from 25-33 per cent. to 13 per cent. However, it must be taken into consideration, that many of the studies of this condition resulting unfavorably, have not been published, owing probably to the natural disinclination to publish unfavorable results.

In conclusion it may not be out of place to stress the following points:

1. The indiscriminate use of vaccines may discredit an otherwise good therapy.

2. An exact bacteriological diagnosis and the application of a properly prepared autogenous vaccine are essential to success.

3. The use of "mixed vaccines" are to be condemned as unscientific.

4. Under ordinary conditions the use of vaccines should be limited to sub-acute and chronic infections.

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"AN INTESTINAL PUZZLE."

By G. A. Neuffer, M. D., Abbeville, S. C.

ABOUT the middle of August, 1915 there appeared in the city of Abbeville, S. C., and surrounding country a very peculiar disease, (if it can be called a disease), at any rate we had a most peculiar train of symptoms to deal with. By way of interest I might say that one of the most marked peculiarities was that it affected doctors as well as everyone else. I have practiced in Abbeville for the past thirty years, and before this I had never seen any thing like it.

Symptoms.—Onset was sudden, patient would retire at night, feeling perfectly well, wake up before day light with an urgent summons to go to stool —this was the beginning. Then the patient would have anywhere from two to twenty movements in the twenty-four hours—no pain nor griping—no tenesmus—but just simply this, when the call came it meant go—and go right now. In fact, some of my patients were afraid to go to bed at night, for fear of accidents, and as a matter of fact accidents did happen. The stools were white or light yellow in color, and of the consistency of batter and very copious, did not contain blood or mucus. In some few cases dysentery developed either as a sequellae or as a complication; but there seemed to be no direct and constant connection between the two conditions. Nausea and vomiting were absent, and there were no symptoms of jaundice.

Read before the Abbeville County Med. Society, Feb. 11, 1916. Abbeville, S. C.

The appetite for food was variable; one day the patient would eat heartily and enjoy his meals, and there would be no symptoms of indigestion—the next day there would be complete anorexia, and he would eat nothing. There was absent the usual craving for water common to diarrhoea. There was great loss of weight, sometimes amounting to as much as thirty or forty pounds. Tongue slightly furred and bad taste in the mouth. Urine scanty and showed slight albumin, tired, weak or "gone" feeling across the small of back. Temperature normal or in some few subnormal, never any fever.

Some few neurotic patients complained of pains in back, and limbs and required hypodermic of morphine and atrophine to relieve them, but these were cases where their systems were always ready for an excuse to get an anodyne.

Very few of these patients went to bed, or ever quit work, and the duration of the affection was from one to ten weeks—though I have in mind now two patients who are not yet well.

Practically no children and very few negroes were affected—and for a time we believed that women were exempt—but found out that the women had it too, and would take the same medicine we gave their husbands or pass the bottle around to each other, and thus did not call on the physician.

There were no deaths among my cases—in fact Dr. J. E. Pressly reports the only death from this trouble, and this was that of an old negro woman.

Diet had no effect, one way or the other, you could eat anything you pleased and it made the trouble no worse: you could abstain from eating or diet yourself and your condition would not improve.

Medicinal treatment was most unsatisfactory —at first we thought it a bilious diarrhoea, and proceeded to give calomel, this invariably made matters worse—then Bismuth—Alkalies and Opiates were resorted to without benefit—of course if you gave enough Tropii or Pwd. Opium it would check up a while, but not for long. Vegetable astringents — catecu-kino, etc., combined with opium were tried—no good. High irrigation with Ichthyol or argyrol and other agents were used, with temporary benefit.

Finally after much study and thought and considerable worry I found the acid treatment the only thing that did any good. I would have my patients eat anything and everything they want ed. Then I would insist on their drinking two to three glasses of lemonade each day, the lemonade to be taken between meals—and at meal time eat all the pickles—vinegar and acid sauces in sight.

Medicinally I gave them the following prescriptions:

Rx.

Tr. Cardamon Co.	dr. 2
Acid Sulphuric Dil	dr. 6
Spts. Camphor	dr. 6
Spts. Vini Rectificatus	oz. 1
Aq. Ad	oz. 6

M. et. sig.

dr. 1 in water every three hours.

At the suggestion of my friend Dr. J. E. Pressly, in some cases I added ten drops Deod. Tr. Opii to each dose of the above and at the same time I gave the following:

Rx.

Salol	dr. 1
Ex. Pancreaticus	dr. 1
M. ft. caps,	no Xii

Sig. - One every three hours.

This last prescription came from a suggestion of Dr. Coward's as will appear later in this paper. Now there are several interesting questions I wish you Gentlemen to discuss this morning:

1st. Is this trouble confined to Abbeville.

2nd. What is the cause?

3rd. What is it?

The cases seen by us were in the city of Abbeville, and the surrounding country for a radius of say eight miles. Two of the cases were taken suddenly in the city of Wilmington, N. C., but they had only been away from Abbeville for about three days.

I have heard rumors of this trouble in other towns throughout the upper part of the state, but have been unable to verify them.

Of course the cause gave us great concern, if we could find the cause we could stop it. The city water supply was looked into carefully, the water was examined by the State Chemist, Dr. F. L. Parker, and reported free from contamination, the fact that people in the country who never used the city water had it, proved that the city water was not the cause.

In our extremity, Dr. C. C. Gambrell, a member of the State Board of Health, was appealed to, he had Dr. F. A. Coward, State Bacteriologist to come up and investigate. Dr. Coward stayed with us two days, interviewed some twenty or thirty patients, secured a number of fresh specimens and returned to Columbia.

We have had one report from Dr. Coward, he says "he finds the gas bacillus present, and evidences of deficient pancreatic function." We are informed that the "gas bug" is found in all intestinal tracts; and deficient pancreatic function does not always produce the symptoms described above. Dr. Coward promised to return and make further investigations, but so far has not done so.

Question 3, then is the crux of the whole matter, this is the puzzle, and to the physician who solves it, the doctors of Abbeville will be more than grateful.

GENERAL PRINCIPLES OF VACCINE THERAPY.

Ernest Cooper, M. D., Columbia, S. C.

VACCINE therapy is a method of developing an active immunity by the parenteral injection of bacteria or their products into the patient. Inoculation for small-pox is the first known form of prophylactic vaccination for diseases, and was practiced for centuries before bacterial injections were used. In 1879 Pasteur accidentally discovered that hens could bear inoculation with attenuated cultures of the bacillus of chicken cholera without ill effect and were thereafter immune toward virulent cultures. This discovery is the basis of prophylactic immunization by bacterin therapy. Wright, Leishman, Douglas and their colleagues have done much to apply to man the results of Pasteur's work on animals.

Since the time of Edward Jenner the theory of vaccination has passed through three states:

(a) That based on the principles of prophylaxis, e. g., small-pox, anthrax, chicken cholera;

(b) That depending upon the rapid production of immunity after infection but before symptoms are manifest, e. g., tetanus, rabies;

(c) That of curative vaccination, i. e., vaccination after disease is evident, e. g., furunculosis, eczema, sycosis.

The first two steps have been amply confirmed by scientific investigation and the third is still sub judice.

Vaccine therapy has developed by

Read before the South Carolina Medical Association, April 21, 1915, Greenwood, S. C.

marvelous strides during the last decade as a curative agent after symptoms of disease are present. To Wright more than to any other is this advance in therapy due.

The starting point of a bacterial vaccine is usually a pure culture of the organism from which the vaccine is to be made. The identification of the bacterium, the growing of a pure culture and, if necessary, the preparation of special culture media, standardizing and sterilizing the vaccine, demand the services of one well trained in such work. The proper preparation of a vaccine is, therefore, the first step to successful vaccine therapy.

Vaccination may be performed for prophylactic purposes and curative immunization, as follows:

1. By infection of the living germ. Theoretically this is an ideal method for in a vaccine the bacteria should be modified as little as possible. This method is still confined to experimentation on the lower animals.

2. By inoculation with a modified virus or with organisms modified or attenuated by various methods.

(a) By passing the virus through a lower animal, e. g., small pox through the cow, swine erysipelas through the rabbit.

(b) By exposing suspensions of organisms to heat. Most vaccines are so made. Exposure to temperature of 55 C. for half an hour being sufficient.

(c) By exposing cultures to air and light. Pasteur accidentally prepared the first bacterial vaccine in this way.

(d) By drying the virus, as is done in the preparation of spinal cords for anti-rabic treatment.

(e) By exposing organisms to high temperatures as is done in preparing anthrax vaccine.

(f) By exposure of organisms or their products to chemicals as in preparation of anthrax by Roux.

3. By inoculating with bacterial constituents, bacterial extracts, soluble toxins and products of bacterial autolysis, as in preparing Koch's tuberculin T. R., Koch's old tuberculin, mallein, diphtheria, tetanus, antitoxin, etc.

Our knowledge of these modern methods of treatment is based upon the law that the parenteral introduction into an animal of a foreign proteid stimulates the tissue cells to form antibodies which neutralize or destroy it. Many antibodies have been demonstrated by recent investigators. Those of a protective nature include autotoxins which act by neutralizing the poisons of bacteria, bacteriolysins, which destroy bacteria, and opsonins, which so change bacteria as to increase phagocytosis. Antibodies are highly complex and our knowledge of them limited. They are absolutely specific for the protein injected.

These protective substances—one or all—are called upon during an infection. If the production of antibodies is sufficient, the blood is freed from the bacteria and their poisons, local foci of disease heal and the infected person fully recovers. The antibodies do not disappear entirely at once but remain on guard, as it were, in the tissues and fluids for some time to protect from reinfection. The concentration and duration of the various protective forces vary in different people and in different infections. In some infections the body may not develop sufficient substances to eradicate the local disease. In such a case the system is sometimes aroused to efficient action by the escape of bacteria or toxins from the local focus. This is known as auto-inoculation. To reproduce this natural process of auto-inoculation is the ideal aim of therapeutic immunization through the use of vaccine therapy.

In therapeutic inoculation the fund-

amental principle is to stimulate the unexercised immunizing capacities of the uninfected tissues. This is especially true in chronic conditions when the autogenous vaccine acts as a spur to the unresponsive cells, while in acute febrile cases the cells are probably reacting as strongly as possible and, if so, the vaccine might cause disastrous overexertion.

While using a specific vaccine the usual forms of treatment should not be neglected. Experience has shown that vaccine therapy can not be of service in removing necrossed matter or an abscess. Where surgical measures are required, they should be simple and disturbance of the tissues should be minimal unless removal of the whole focus of the disease is possible.

The encouraging results following the early use of autogenous vaccines very naturally attracted attention and there soon arose a demand for vaccines. Commercial houses rushed to the rescue with motley mixtures varying in content according to the crude guesses of the manufacturers as to what a vaccine should contain. As a result vaccine therapy was carried far afield from the well beaten paths opened by Wright and his coadjutors. Instead of an autogenous vaccine, a mixed vaccine was furnished; instead of a bacteriological diagnosis being needed, curative vaccines are supplied for diseases whose cause is known, instead of specific therapy, shotgun or blunderbus mixtures are suggested. I do not wish to be misunderstood. I believe that occasionally the vaccine of more than one organism may be needed, but each should be administered separately or the mixture prepared at the time of injection. The wholesale manufacture of various bacterial vaccines and their indiscriminate use have not been satisfactory, and have tended to bring their use into disrepute. Rational and scientific vaccine therapy does not consist in the administration of ready made, uncertain mixtures whose content is unknown. This is especially true in the use of vaccines for therapeutic purposes. Time has a deterioating influence upon vaccines. The older the vaccine the more unfit it is for therapeutic purposes. Some vaccines become inert more quickly than others. A colon bacillus vaccine four weeks old is practically useless. This organism serves to illustrate the advantage of autogenous cultures for more than 150 varieties of it have been identified and described. The disease pneumonia may be cited as to the importance of a bacteriological diagnosis for in only 50 to 60% of the cases is the pneumococcus the exciting factor, yet the pneumococcus vaccine has been given right and left.

Vaccines are usually administered hypodermically. The size of the initial dose must vary with the virulence of the organism, the nature of the infection, as to whether it is acute, chronic, generalized or localized. We have no accepted method of standardizing the virulence of an organism. With an autogenous vaccine it is always best to begin with a small dose. In no case should rules be blindly followed. However, the more chronic and localized the disease, the larger the initial dose; the more acute and generalized the infection, the smaller the initial dose. An excessive dose of vaccine will do harm, either by causing too rapid destruction of bacteria, thus throwing a large amount of endotoxins into the circulation or by creating a "negative phase" exhausting the antibodies on hand. When a state of overwhelming infection is present vaccine should not be used. Indeed Theobald Smith says, "In processes associated with fever and bacteriemia, science says 'Hands Off, until we know whether we have a progressive

disease with gradual undermining of the resistance or a more localized affection in which the excursions into the blood are secondary.' In any case, the use of vaccines in such conditions is experimental. Vaccines applied during disease will be, rarely, if ever, life-saving, but they may hurry a stationary or languid process which tends to recovery, by bringing into play the unused reserves of various tissues."

In vaccine therapy we have an addition of the utmost value to our methods of relieving symptoms and curing diseases. It is, however, unnecessary to insist that this method does not displace the old well established methods of treatment and that if we are to obtain the best results we must use it in conjunction with those methods which years of clinical experience have proved to be essential in successful treatment.

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SPECIFIC SKIN REACTIONS, THEIR VALUE AND SIGNIFICANCE.

By H. M. Smith, M. D., Columbia, S. C.
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TO Edward Jenner in the year 1798 belongs the honor of being the first to discover the "skin reaction." On his failure to inoculate with smallpox fourteen persons who had already had cowpox he wrote as follows: "It is remarkable that variolous matter, when the system is disposed to reject it, should excite inflammation on the part to which it is applied more speedily than when it produces smallpox. Indeed it becomes almost a criterion by which we can determine whether the infection will be received or not. It seems as if a change which endures through life has been produced in the action or disposition to action in the vessels of the skin; and it is remarkable, too, that whether this change has been effected by smallpox or the cowpox the disposition to sudden cuticular inflammation is the same on the application of variolous matter."

The diagnostic possibilities of localized skin reactions were not understood till 1907 when V. Pirquet and Calmette described their local tuberculin tests on the skin and eye respectively. When Koch first used his tuberculin back in 1890 it was haled throughout the world as of wonderful therapeutic value, and interest in its use was confined to its therapeutic possibilities. Koch was aware of the local, focal, and general reaction that followed the subcutaneous injection of tuberculin in tuberculous individuals and also recognized its diagnostic value, but he did not appreciate the true significance of the local reaction.

The Nature of Specific Skin Reactions.—The most generally accepted theory as to the nature of specific skin reactions is the antigen-antibody or complement-fixation theory. The virus of certain diseases, called antigen, produces in the animal body certain specific reaction bodies, called anti-bodies or amboceptors. These antibodies are produced by the invad-

Read before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

ed cells of the body as its means of defense against the invading antigen and become active in the presence of the so-called complement, a substance naturally present in normal blood. The inoculation of the skin with any of these various antigens produces a reaction at the site of the inoculation by means of a union of the antigen with the anti-bacterial bodies already present. This combination fixes or anchors a certain quantity of the blood complement, which acts as a ferment on the inoculated area and produces certain inflammatory changes characteristic of the local skin reaction. In the case of specific skin reactions the antibodies are already present in the body cells or fluids, being existent naturally in the body, as in the case of natural immunity, or having been manufactured by the body cells in response to some previous or new existent infection.

Let us now consider more or less briefly the application and value of the various skin reactions.

1. Von Pirquet's Cutaneous Tuberculin Test.—In this test two drops of the undiluted old tuberculin are placed on the inner surface of the forearm 3 or 4 inches apart, and scarifications are made through these drops and also at a spot between the drops to serve as a control. The maximum absorption of the tuberculin through the abrased surfaces takes place in about ten minutes Within about six hours the reaction, if positive, begins as an area of redness and infiltration, reaching its maximum in 24 to 48 hours and then subsiding. Since healed, latent, and active stages of tuberculosis produce a sensitiveness to this reaction, and since practically all adults have a tuberculous process at some time or other, the positive reaction is of little weight in adults. The younger the child the more evidence a positive reaction gives of an active lesion. As an indicator of an active process it is of more value in children than in adults on account of the presence of active lesions in children rather than latent or healed foci. During the first two years of life the positive reaction is of great diagnostic value. Baldwin claims that the reaction is of considerable importance in children up to the age of ten years, and that such children who show this reaction should be treated or at least carefully watched to prevent the development of clinical tuberculosis. Von Pirquet advises the employment of this test in children annually in order to discover such infection and to institute treatment and the proper mode of living at the earliest possible moment.

The cutaneous reaction is always positive when a tuberculous infection is present, except in acute miliary tuberculosis, tuberculous meningitis, rapidly progressing pulmonary tuberculosis, the advanced and terminal stages of chronic tuberculous disease, and in the presence of measles and other acute infections, particularly when fatal.

A positive tuberculin reaction indicates only that the individual has suffered or is suffering from some tuberculous lesion. It indicates an active process only when accompanied with other clinical signs and should not in and by itself be regarded as a sign of an active lesion. The products of tubercle bacilli produce a hypersensitiveness of the body cells not only in active processes, but in latent and in old, healed tuberculous foci. It is estimated that at least 40 to 60% of persons with no active tuberculous lesions give a positive reaction to tuberculin. Nevertheless it is a specific reaction and indicates the presence of some sort of tuberculous lesion somewhere in the body. A negative reaction, on the other hand, is of very great value in excluding tuberculosis in both children and adults.

2. The Subcutaneous Tuberculin Test.—This test suggested by Koch in 1890 gives a general and focal, as well as a local reaction. From .1 to 5 milligrams of old tuberculin are injected subcutaneously. In 10 to 12 hours the general reaction begins with a characteristic rise in temperature from 102 to 104 degrees. At the same time in most instances within a few hours after the injection a local reaction occurs, with which only we are concerned here, consisting of swelling, pain, and reddening of the skin around the point of injection, persisting from 2 to 7 days, and then subsiding. This reaction is in nature and significance similar to the cutaneous reaction just described above from both the positive and negative standpoints.

3. Calmette's Opthalmo-Tuberculin Test.—"The absorption of tuberculin from any portion of the body stimulates a pre-existing hypersensitiveness," and Calmette obtained positive reactions by instilling a drop of 1% tuberculin into the conjunctival sac. The reaction ensues in from 16 to 24 hours and may present a simple hyperemia or enlargement of the conjunctival follicles or a purulent conjunctivitis. The test is valuable, but on account of the severity and danger of the reaction it is seldom employed in man.

4. Other Tuberculin Tests.—Moro's percutaneous, Mendel's intracutaneous, and Hamburger's subcutaneous local tests.—I mention only in passing, as they are not very widely used. None of these tuberculin tests is conclusive except with reference to the fact that there is somewhere in the body a tuberculous lesion, which may be either active, latent, or healed. On the whole the V. Pirquet cutaneous reaction is the most generally useful.

5. Streptothrix reactions in diseases resembling tuberculosis caused by certain members of the streptothrix group of organism

Flexner has described under the name of "Pseudo-tuberculosis hominis streptothrica" a condition in human beings in which the "lungs showed caseated areas and the peritoneum tubercle-like nodules." Other observers have more recently found the same conditions in the lungs, the glands, and the bones, in which a pure culture of some form of streptothrix has been found with the entire absence of tubercle bacilli, these cases being clinically indistinguishable from tuberculosis.

Claypole has prepared solutions of the two types of streptothrix in the same manner as old tuberculin is prepared and has found that skin tests with these solutions will by their reaction differentially diagnose those cases of streptothrix infection from tuberculosis and will also differentiate between the members of the streptothrix group. Madura foot, actinomycosis, and pseudo-tuberculosis belong to this group of diseases produced by the streptothrix organisms. While generally these diseases are slow, localized processes, they not infrequently develop a pneumonic course and in many instances may be indistinguishable from tuberculosis. A reliable specific skin reaction will be of great value in differential diagnosis.

6. Luetin Reaction in Syphilis.—This test was brought out by Noguchi in 1911. Luetin, an emulsion of the killed culture of spirochaeta pallida, is mixed with an equal part of physiological salt solution, and .07 cc. of this mixture is injected intracutaneously, as superficially as possible to form a wheal about 5 mm. in diameter. Within 24 to 48 hours a positive reaction shows a raised papule with a rather diffuse induration and a surrounding redness. The area increases in size from 4 to 6 days and fades away in from 3 to 6 days more.

The papule frequently becomes pustular and may show a hemorrhagic exudate. It is a highly specific test and occurs only in cases of syphilis. The greatest number of positive reactions occurs in cases where the Wasserman reaction is negative. It shows its highest percentage of positive reactions (80%) in late tertiary and latent syphilis and is usually absent or mild in primary or secondary cases.

The following varying percentages of positive reactions are given by different writers:

Congenital syphilis, 10-96%.

Cerebro-spinal ((parasyphilis'' 30-80%.

Tertiary and latent syphilis, 65-100%

The luetin test, when negative previous to treatment, is often brought out by energetic anti-syphilitic treatment.

In those cases which give a positive luetin reaction and a negative Wasserman test Noguchi sees a valuable indication for continuing treatment.

7. Skin Reaction with the Smallpox Vaccine.—Many of us have doubtless made various unsuccessful attempts to vaccinate certain individuals against smallpox. We have ascribed our failure to probable inertness of the vaccine used, or possibly to some failure in our technic, or to the fact that the individual must already be fully protected against the disease. Edward Jenner, as previously noted, found on attempting to inoculate with smallpox persons who had already had cowpox that they developed within a few hours after inoculation a "sudden cuticular inflammation," to use his own words. Such a skin reaction in these cases shows that protection already exists and indicates that antibodies are already present which destroy the smallpox virus at the point of inoculation and prevent the production of vaccinia. In such cases, in which this immunity reaction is noted, it is useless to attempt further vaccination, for immunity already exists.

Gay reports that Force and Beckwith in this connection have devised a method for the differential diagnosis of smallpox cases. They found that rabbits could be made immune to smallpox virus by subcutaneous inoculations of smallpox vaccine. In a given case of suspected smallpox intracutaneous inoculation into such an immunized rabbit of matter from the suspected lesion gives a positive skin reaction in case of smallpox, but gives no reaction to inoculated matter from chicken pox or other pustular lesions that may be confounded with smallpox, thus affording a means for a quick differential diagnosis.

8: The Typhoidin Reaction in Cases Immunized Against Typhoid Fever.—The value of immunization against typhoid fever is becoming everywhere recognized, not only as a protection for armies in the field and garrison, but as a means for preventing the spread of infection in local epidemics or from sporadic cases only. How long such immunity produced by anti-typhoid inoculation lasts has been more or less a matter of conjecture by averages. In general it has been found that two years is about the average duration. Some individuals, however, are protected only for a few months while others may be protected for years. There is no assurance that an individual who has been vaccinated against typhoid fever is really protected. Gay and Force, working on this subject, developed a special typhoid vaccine, which they call typhoidin, and have found that by the intracutaneous injection of a small amount of typhoidin a positive skin reaction occurs in all cases that are properly immunized against typhoid fever. Those cases that fail to

react are not immunized and are advised to be revaccinated.

9. Reactions in Miscellaneous Infections.—Subcutaneous, cutaneous, and intracutaneous inoculations of gonococcic vaccines have been employed in gonococcal infections with varying reactions and varying success and have only a limited practical value. The best results have been obtained in suspected gonorrheal arthritis cases.

Similar allergic reactions have been described in trychophytosis, sporotrichosis, leprosy, glanders, and a few other diseases, but with the exception of the use of mallein in the diagnosis of glanders in animals these tests have not been widely used.

10. Shick's Reaction in Diphtheria.—This reaction, discovered by Shick in 1912, consists in the intracutaneous injection of a very small amount of diphtheria toxin into the individual to be tested. If antitoxin is present in the blood no reaction follows. If there is no antitoxin, the site of the inoculation becomes surrounded in 24 to 48 hours with an area of redness and infiltration which slowly fades away leaving a pigmented area behind for some weeks. Those who do not react are already protected from diphtheria, and such persons need not receive an immunizing dose of antitoxin. Those that react to the test are unprotected and should be immunized if exposed.

This test is of especial value in schools or other institutions or in communities or families where there has been an outbreak of or exposure to diphtheria. It will be necessary to immunize only those who give the positive reaction, thus avoiding the annoyance and danger of serum reactions as well as the expense to the state or the individual of the unnecessary purchase of antitoxin. The work of various observers with this reaction indicates that 80% of the newborn are protected against diphtheria, 37% of children between 2 and 5 years of age, 50% of children between 5 and 15, and presumably a still greater per cent. of adults are protected, for the blood in 90% of adults normally contains diphtheria antitoxin in readily demonstrable quantities.

The Shick reaction will aid in testing not only natural immunity but the efficiency of immunization by antitoxin. It will determine the comparative efficiency of the subcutaneous, intramuscular, and intravenous methods of the injection of antitoxin, as well as the duration of immunity.

By its use hospital nurses who are found susceptible to diphtheria may be kept away from such cases, and only those who are immune need attend them.

In suspected cases of diphtheria showing positive cultures of the diphtheria bacilli the Shick reaction will differentiate between the actual clinical cases of diphtheria and those that are only carriers.

The amount of the toxin for the test is 1-50 of the minimal lethal dose of diphtheria toxin for a guinea pig and is supplied by one or two houses in ampoules ready for injection.

The question may arise why it is that in all the preceding cases the **positive** skin reaction indicates the presence of antibodies, while in the case of diphtheria it is the **negative** reaction that indicates their presence. The answer involves the difference between the two kinds of immunity, antibacterial and antitoxic, dependent upon the nature of the antibodies present. In the preceding examples the immune substances or antibodies are **antibacterial** and on combining with the injected antigen in the presence of the so-called complement the characteristic skin reaction takes place as previously described. In the case of diphtheria,

on the other hand, the immunity and the antibodies are **antitoxic,** and when diphtheria toxin-antigen is injected into persons already protected with antitoxin bodies, there is simply a direct chemical union between the toxin and the antitoxin without the interposition of complement, resulting in a simple neutralization of the toxin without any reaction taking place in the skin.

When there is no antitoxin present, the diphtheria toxin, when injected, attacks the body cells and stimulates them to the production of antibodies, causing an inflammatory skin reaction at the injected area by direct injury to the cells. This reaction indicates the absence of all preformed antitoxin and shows thereby the need of immunization.

Application in Public Health Work.—The value of these tests in the practice of medicine is undoubtedly great, but the possibilities of the application of these tests—particularly the Shick, the typhoidin, and the tuberculin reactions—in preventive medicine and especially in the field of public health work appeal to me as worthy of very great interest.

In outbreaks or epidemics of diphtheria in schools, hospitals, asylums, jails, penitentiaries, and other institutions where the health officer has charge of its suppression, the Shick reaction will be of great value in determining who need immunizing and who do not, saving much expense for the purchase of unnecessary antitoxin, much discomfort to individuals on acount of unnecessary inoculation, and much loss of time from unnecessary quarantine.

In the promulgation and extension of immunization against typhoid fever, either voluntary or enforced by state statute, an immunization, by the way, much more important than even vaccination against smallpox for which we have laws, where every man, woman, and child between certain ages may be inoculated against this disease of filth, the typhoidin reaction may, in its turn, serve to determine the need as well as the success of such immunizations.

In the prevention of tuberculosis, the time and place to begin is not on the adult who may already be in the throes of consumption, but on the child where it first practically invariably begins, at which stage no possible clinical signs may be evident and when the diagnosis and even the suspicion of such early infection could lead, by the institution of the proper treatment and the proper mode of living, to the abolition of the most widespread scourge of the human race. The application of the cutaneous tuberculin test to all children annually, as advised by Von Pirquet, would serve to detect this infection from its very earliest beginning. Would it not be an invaluable aid in the most important and most hopeful campaign ever undertaken by the profession, the suppression and eradication of the Great White Plague?

All this may be an "iridescent dream" and may or may not come to pass till the advent of the millenium, but, where there is no vision, the people perish."

I wish to acknowledge my indebtedness to the various authors referred to, especially to Gay whose articles I have freely consulted.

SOME EXPERIENCE WITH "TWILIGHT SLEEP."

By W. J. Burdell, M. D., Lugoff, S. C.

IN view of the present arousing of the public over the so-called "twilight sleep" in obstetrics, perhaps my notes based on the use of this meth-

Read by title before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

od of obstetrical anaesthesia will be of interest.

I used for producing this anaesthesia the tablets put out by Abbott of Chicago in some of the cases and in others used a solution I had prepared by a druggist. The Abbott tablet is supposed to contain Hyoscine Hydrobromide Gr. 1-300, Morphine Sulphate Gr. 1-8, and Cacain Gr. 1-67.

My solution contained Scopolamine Hydrobromide Gr. 1-200, and Morphine Sulphate Gr. 1-8 to 10 minims.

The method of giving was the same with both tablets and solution, using ten minims of solution or one tablet at a dose, and giving hypodermatically.

As soon as the os was dilated well, I gave one dose, immediately after the hypodermic I would show the woman some object, usually a folding tongue depressor, and ask her to try to remember seeing it. After twenty minutes I would ask her if she remembered seeing the object. If she did I would give another injection, same dose. Again wait twenty minutes and show the object. If memory was still retained, I would give the third dose. I in no case had need for the fourth dose, nor would I have given it if there had been need.

This is in brief the routine followed. These cases, seventy-five, in all were attended during the years 1907, '08, and '09.

I will not go into detail, in fact could not as I have only brief notes jotted down in my record book at the time, but will merely give a summary of these notes.

In 60 cases patients had no recollection of pain after last dose given.

In 53 cases second dose obliterated memory.

75 or all cases could be aroused at any time by calling, or shaking.

75 cases showed symptoms of pain during contractions.

In 47 cases labor seemed to be retarded by drug. I say seemed to be retarded knowing that we can not lay down any positive time for the completion of labor. I am sure however that these cases would have gotten through in from half an hour to three hours less time.

Version, internal, done in three cases. In one of these two tablets and 3 drams of chloroform necessary for anaesthesia. Another required 3 tablets and 2 drams of chloroform, the third one tablet and 6 drams of chloroform.

In only four cases was there enough afterpains to require any anodyne.

Eight forceps cases. One, two doses of scopolamine-morphine and one dram of chloroform.

Second three doses of scopolamine-morphine and about one dram of chloroform.

Third one dose of scopolamine-morphine and one ounce of cholroform.

Vomiting followed labor in one case, and this was the case in which 6 drams of chloroform was given.

Of the 15 cases remembering pain, 11 were first seen too late to give more than one dose of drugs, four had only two doses of drugs, and one, a version case with only one dose of drug and 6 drams of chloroform, and a version case.

In 20 cases lacerations were repaired, none complete. No pain from needle in any case.

In thirty-five cases baby very blue, 12 of these requiring artificial respiration, and four of these required artificial respiration for over five minutes.

In all cases where two doses were given babies slept except when moved or roused for from 24 to 48 hours.

Neither mothers nor babies seemed to be constipated by the drugs.

Mothers slept from 12 to 24 hours after labor in 6 cases, from 6 to 12 hours in 34 cases and from 3 to 6 hours

in 20 cases but could be aroused at any time. 42 were irrational when aroused during first 12 hours. Two were irrational for about 24 hours.

Fifty-one were irrational within forty minutes after the first dose was given.

Face flushed and throat dry in all cases.

Four cases were tubercular. Two showed albumen and casts before labor. Two were edematous at term. No convulsions in any case.

No appreciable effect on the secretion of milk.

One baby died on fourth day after birth. Symptoms indicated obstructed bile passages.

After I had tried this method of anaesthesia in this series of cases I put it aside. My conclusions were, that it added to the length of the labor.

That it was dangerous to the child.

That it was about as troublesome as chloroform anaesthesia.

I could see no advantage over chloroform.

I have thought that I would try the method again in a series of cases using pituitrin in connection with it to see if that would overcome the retarding effect, but must say that I am afraid of "blue babies," and have for this reason hesitated.

RECENT OBSERVATIONS IN STOMACH SURGERY.

By Robert Thrift Ferguson, M. D.
Gaffney, S. C.

MY purpose in appearing before you today is to compare operations done on the stomach at this time with those done in earlier days when the pioneers were blazing the way for us to follow and improve. Twenty years ago when a patient was to have an operation on the stomach or intestines no solid food was allowed for at least a week prior to operation —only a little strained beef tea, extract of beef and small doses of brandy and warm water being given. The patient was fed every two hours with nutriment enemata. The stomach was washed out once or twice a day with 5% solution of salicylate of soda or boracic acid. Now a patient comes into the hospital for an operation of this character with no previous preparation except a purgative—as in other operative cases—and the stomach washed out just before going on the operating table. The skin of the abdomen was prepared twenty-four hours in advance and kept protected by various wet or sterile dressings and prepared again just before the operation. Now the case is brought into the operating room with no skin preparation -shaved and painted with a 5% solution of iodine and the abdomen opened. The old operation for gastro-enterostomy using Senn's decalcified bone plates is obsolete and many other experimental methods have been discarded for the simplest and best method of suturing. The time formerly required to do a gastro-enterostomy was from two to four hours and most of the patients died from exhaustion or shock. Today it is done in thirty minutes, and less, by the better operators and the patients suffer no shock.

Rydyger was probably the first surgeon who actually removed the pylorus but it was left to Billroth to bring the operation prominently before the profession. The combined operation for pylorectomy and gastro-enterostomy was first performed by Billroth in 1885, so surgery of the stomach may be said to be a very recent procedure. The

Read by title before the South Carolina Medical Association, Greenwood, S. C., April 21, 1915.

operation for anterior gastro-enterostomy as formerly practiced is rarely done now except in cases where the posterior operation is impossible; and when the anterior is done an enterostomy is done at the same time to try and prevent the vicious circle which has been the bete noire of the stomach surgeon in the past and has made the operation a failure so often.

I was struck with the rapid advance in surgery of the stomach a few days ago while watching Erdman, of New York, do a posterior gastro-enterostomy and a gastro-cholecystostomy on a boy fourteen years of age in a case of non-operable tumor of the duodenum extending into the ampulla of Vater with obstruction of the duodenum and common bile duct. The operation was quickly performed and the patient quickly recovered. On a visit to Deaver's clinic in Philadelphia recently I was interested in watching him do an exploratory gastrotomy just as we do an exploratory laporotomy. He says there is no harm in opening the stomach for diagnosis in obscure cases and believes it should be done oftener as cases of ulcer, especially of the Dieulafoy type are often otherwise overlooked.

The advances made in stomach surgery are largely due to the work of Drs. Fenwick, Lane, Morison, Moynihan, Stiles, Kocher, Sutton and Robson abroad and to W. J. and C. H. Mayo Murphy, Deaver, Kelly, Finny, and others in this country.

The Murphy button is rarely used now since the methods of suturing and the technique of stomach and intestinal surgery has been brought to a high point of perfection; and does away with leaving a foreign body in the intestine to pass out or itself become an obstruction.

Gastro-oesophagostomy for obstructing tumors at the cardiac orifice is an operation that promises a great deal when the methods have been further perfected. At present the mortality rate in tumors around the cardia is 100%, but with this operation by using a portion of the greater curvature of the stomach as a tube and passing it underneath the skin to unite with the upper part of the oesophagus brought out through an incision in the neck opens a new field for experimental surgery, and good results have already been obtained by this method as recently so ably described by Dr. Wiley Myer, of New York.

My plea is for an early diagnosis and early operation in all stomach cases while there is a chance to cure and reduce the present high mortality rate.

THE PHENOL-SULPHONE-PHTHALEIN ESTIMATION OF RENAL FUNCTION IN A THOUSAND CASES.

By Marion H. Wyman, M. D.,
Columbia, S. C.

THE question as to the best method of determining renal function has within the last few years provoked quite a little discussion, and has caused men of equal ability and prominence, to be more or less divided on this important subject. This paper is not intended, however, to compare methods or tests, but to give briefly, personal conclusions based upon the phenol-sulphone-phthalein estimation of the renal function in one thousand cases. Also suggestions are made which slightly simplify the technique, and it appears that the general profession can and should apply this functional test in the management of all nephritic and obstetrical cases, and are convinced

Read before the Tri-State Medical Association of the Carolinas and Virginia at Richmond, Va., Feb. 16, 17, 1916.

that their reward both from a diagnostic and prognostic view-point will be very gratifying.

The majority of these tests were done on surgical patients at the Columbia Hospital, as a part of the routine examination prior to some surgical procedure. The technique followed may be divided roughly into two classes, namely: Medical and Surgical. The only difference, however, is that the Surgical is more accurate, requiring the patient to be catheterized, and the drug administered intravenously. The results of the intra-muscular method are not as satisfactory and constant as the intra-venous, therefore, out of the one thousand cases tabulated, the intra-muscular method was used in not more than fifty, and then only as a check when the intra-venous estimation seemed abnormally low.

All cases drink three glasses of water twenty to thirty minutes before being catheterized, and when certain that the urine is dropping freely so as to accurately get the time of appearance, one Cubic Centimeter (1 c.c. which represents 6 m.g. of phenol-sulphone-phthalein) is injected intra-venously with a Record syringe. The red color should appear in the urine as it drops from the catheter into an alkaline sodium hydroxide solution in from three to five minutes. This time of appearance is noted, and one specimen is collected for thirty minutes, the per cent. of which is quickly determined by very simple colorimeter. Dr. Geraghty, in his original papers, suggested the collection of two fifteen-minute specimens, but these vary and are unnecessary, as the total elimination for one-half hour is the important point.

In medical cases five minutes is allowed for the time of appearance, therefore, the patient voids in thirty-five minutes from the time the intra-venous injection is made. If the drug is administered intra-muscularly, we, of course, collect for a total of two hours and ten minutes, as described by Dr. Geraghty.

As above stated, it is not the intention of this paper to give figures or to classify disease, but to state briefly general observations.

In the first place, without a single exception, patients whose physical and laboratory urinary findings were normal, always registered a normal phthalein output of from sixty to eighty per cent. Occasionally, on account of faulty technique, the test had to be repeated, but the results were always as stated above. The converse of these findings does not hold true, however, for frequently a case with albumin and casts temporarily in the urine, may give a normal elimination of the dye. Nevertheless, the rise and fall of the phthalein output will follow amazingly well and the laboratory and physical findings in any given case.

So constant and true has this method of determining kidney efficiency been proven, and borne out by autopsies, operations, and subsequent clinical developments, in this number of cases, that the formulation of the following general rules seem justified, which, of course, have to be alterated in special cases:

1. A phthalein of seventy per cent or over comes only from normal kidneys.

2. Temporarily, a sixty per cent. output may be eliminated with such evidence of disease as albumin and casts, but these abnornal elements must soon clear up, or the per cent. of the output of the dye commences to decrease.

3. Pus and albumin may very rarely be eliminated with a reading as high as sixty per cent. when one kidney is compensating

unusually well for its diseased fellow.

4. However, in over ninety-five per cent. of the cases, the per cent. of the dye is below sixty per cent. when any evidence whatever of a diseased kidney is present in the urine, such as albumin and casts, or pus.

The important thing from a prognostic view-point is whether the per cent. curve rises or falls, hence the necessity for a repetition of the test, and in ninety-nine per cent. of the cases this curve followed absolutely accurately the laboratory and physical findings.

For example: A man may be regarded a good surgical risk with an output of only twenty per cent., provided the curve has risen and is stationary. If such is the case, you will find that his physical condition will have improved also.

Mr. "S,' age 62, prostatic obstruction 'case, came into the Hospital, with an elimination of forty-five per cent. with albumin, casts, and pus in the urine, and a blood pressure of 180. Nevertheless, under proper treatment, such as bladder drainage, etc., he failed to improve, and his phthalein per cent curve dropped daily at an average of from two to five per cent. Of course, an operation was not attempted, the patient lived for only three weeks, dying in uremic coma. This case emphasizes the importance of repeating the test from day to day, for had not this been done, the patient would have been operated on and surgery blamed for his death. Only once has a case been observed where a patient lived with an elimination constantly of below ten per cent., and this was a negro preacher, age 65, with a slightly obstructing vesical orifice. He went along under constant treatment for nine months before death came, and at no time did his function increase over ten per cent. by any method.

All agree that the phthalein is the mos satisfactory differential functional test when the ureters are catheterized, on account of the ease of administration and rapidity of elimination. And in addition to this, is it asserting too much when the statement is made, that this test, when properly performed, is so reliable that none should practice medicine without its valuable aid. The general practitioner for less than ten dollars can completely equip himself, and in a few minutes can perfect a satisfactory technique for determining the kidney efficiency in all of his patients. In general practice the following is appreciable:

After patient has drunk three glasses of water, inject with Record syringe one Cubic Centimeter (1 c.c.) of phthalein either intra-venously or intra-muscularly; if intra-musculary, he voids in seventy minutes, and again in one hour These specimens are placed in a one thousand Cubic Centimeter (1000 c.c.) graduate, and a few drops of sodium hydroxide solution will bring out its brilliant red color. Then add a sufficient quantity of water to bring the total up to one thousand Cubic Centimeters (1000 c.c.), mix thoroughly and estimate per cent. with some colorimeter. The Dunning $5.00 colorimeter is very accurate, simple and satisfactory.

In closing, it occurs to me that the following points are important and conclusive:

The phenol-sulphone-phthalein method of renal function estimation is inexpensive, the technique is easily and quickly acquired and applied, the results are an accurate index to the working abilities of the kidneys, and are indispensable, both from a diagnostic and prognostic view-point.

The above statement is confirmed by

a critical analysis of over a thousand cases, the accuracy of which were amazingly well proven by laboratory, clinical, operative, and autopsy findings.

SOCIETY REPORTS

CHARLESTON COUNTY.

Dr. E. C. Baynard read a paper on the subject of "Indications for Cystoscopy." The essayist pointed out the valuable results obtained by the use of the Cystoscope in the diagnosis of vague conditions of the genito-urinary tact. He laid considerable emphasis on the fact that many conditions involving the bladder-ureters and kidneys were allowed to go on unrecognized, which could be easily cleared up by the Cystoscope. He cited a case where symptoms of appendicitis were so marked that an operation was about to be performed, when the Cystoscope revealed a kink in the ureter. Several interesting cases were cited by the essayist. Tumors of the bladder, renal calculi, Hydro-nephrosis, etc. A general discussion followed.

Dr. Taft illustrated X-Ray plates showing cases cystoscoped by Dr. Baynard. Bone plate particularly displayed very clearly the catheter in the ureters. The paper proved both interesting and instructive, Dr. Baynard being highly commended by members who had referred cases to him.

Dr. Mercier Green, City Health Officer read a paper treating of the Health conditions in Charleston. He showed the work which had been accomplished by the Board of Health, under strained financial conditions. Plead for a cooperation from the professional layety in carrying out the work of the board. A very lengthy discussion followed in which an increase of appropriation was urged and the education of the public along health lines.

Respectfully,
Albert Nathan, M. D.

HAMPTON.

On February the eighth the Hampton County Medical Society held its second meeting in Estill. Dr. J. F. Coleman now located at Varnville was added to the list of members. Only two were absent. The following papers were read and were excellent:

Influenza—Dr. M. B. Monsen.
Eclampsia—Dr. E. H. Wyman.
Pellagra—Dr. J. N. Campbell.

The business session was of minor importance as nothing of vital interest was discussed.

The editorial in the January Journal, suggesting the attendance of the wives and daughters of the physicians was read and it was unanimously agreed by the entire Hampton County Society that such a step be taken.

Dr. E. R. Fowler, Sec.

UNION COUNTY.

The Union County Medical Society meets every Monday night. The attendance s usually good. Dr. Cabots' Hospital Records are read and studied also report of Clinical Cases. The New Officers for the year 1916 are as follows:

Dr. P. K. Switzer, President.
Dr. A. P. McElroy, Vice Pres.
Dr. W. H. Hope, Sec. & Treas.

GREENVILLE.

A special meeting of the Greenville County Medical Society was held in the Chamber of Commerce rooms at ten o'clock March 2nd, to listen to an address by Dr. C. L. Minor of Asheville, N. C., on Tuberculosis. The attendance of the members was good and by invitation there were quite a number of the citizens of Greenville present. Dr. Minor's address was replete with practical suggestions to the general practitioner, especially as to the early diagnosis of Tuberculosis. The speaker laid special stress upon the necessity for giving ample time, maybe weeks or months to the repeated examination of patients suspected of incipient Tuberculosis. Dr. Minor also emphasized the great importance of the written history of the case and of printed instructions to the patient. The society thoroughly enjoyed the paper as was evidenced by the intense interest accorded Dr. Minor from the beginning to the end of his address.

John W. Parker,
Secretary.

NEWBERRY COUNTY.

The Newberry County Medical Society held its regular monthly meeting Friday afternoon, February 11th, at 3 o'clock. Fifteen physicians were present including the new officers, elected at the January meeting. Dr. J. M. Kibler, Pres., Dr. J. H. Moore, Vice-Pres., and Dr. J. B. Setzler, Sec. & Treas.

The society voted to cooperate with the local Civic Association in a "Better Babies" day this spring.

Dr. Van Smith read a very interesting paper on "Typhoid Fever as Modified by Antitoxin Injection" and Dr. J. B. Setzler discussed "Diphtheria Antitoxin." The Dosage, with report of a patient receiving 144,000 units with Final Recovery". Both papers were followed by very interesting discussions by the physicians present.

After the adjournment of the Society the physicians were the guests of the local physicians of the town of Newberry at an elegant dinner at the Newberry Hotel.

J. B. Setzler, Sec.

HAMPTON COUNTY.

On Tuesday, March 14th the usual monthly meeting of the Hampton County Medical Society was held. The enthusiasm of the meeting was gratifying. Such a feeling as prevails, shows that the doctors are in earnest. Only three members were absent and these were unavoidably detained.

The Constitution and By-Laws prepared by the committee was read by sections, and adopted with such amendments as were thought necessary to meet local conditions.

Dr. J. L. Folk of Brunson was elected delegate to the State Convention. The Secretary was chosen alternate. It is believed that Hampton County will send half her physicians to be benefitted by the State Convention.

The paper on "pneumonia" by Dr. Tuten was enjoyed by all and discussed freely. Dr. Coleman, who was to have read a paper on "Typhoid" was kept away on account of the illness of his father. The last paper on the programme was "Medical Ethics"—Dr. Fowler.

The Society was delightfully entertained at lunch by Dr. Johnston Peeples.

Yours for progress,
J. R. Fowler,
Secretary.

STATE BOARD OF MEDICAL EXAMINERS

NURSES. DIETETICS.—Dr. John Lyon, Examiner.

(*Continued From February Issue*)

1. What is included under the heads: (a) Liquid diet? (b) Soft diet? (c) Light diet? (d) Full diet?

2. State the length of time required to cook properly the following foods: (a) Soft boiled eggs. (b) Rice. (c) Oat meal. (d) Roast beef. (e) Broiled steak.

3. What foods may contain ptomain poisoning? How is this prevented?

4. What diet would you give a healthy child 18 months old? State the quantity allowed for each meal and intervals of feeding.

5. From what foods do we obtain chiefly (a) Proteids? (b) Starches? (c) Fats and oils?

6. Why do we cook (a) Meats? (b) Starches? (c) Vegetables?

7. Describe the process of pasteurizing milk. What is its object?

8. What effect has boiling milk on its dietetic value?

9. Why do eggs spoil? How would you detect a spoiled egg without breaking it?

10. Give recipe for one nutrient enema. Tell how it should be administered, giving amount, intervals between administration, care of patient, etc.

NURSES. SURGERY.—Dr. Harry H. Wyman, Examiner.

1. Arrange the anaesthetist's table. Make an ether bed. Change a surgical bed.

2. Make a list of instruments, suture material, sponges, pads, etc., to be used in an abdominal operation. Sterilize them for the operation.

3. Give various ways of stopping a hemorrhage from a wound of femoral artery.

4. In a compound fracture of lower leg cleanse the wound and then put on emergency splints and bandages.

5. Of what material are sponges and large abdominal pads made and describe how you make them and the sizes.

6. Prepare an abdomen for an operation.

7. After they have been used, clean and sterilize the different catheters, rubber composition and metal, also whalebone sounds.

8. Your surgeon is going to the country to clean out a retained portion of placenta. Prepare everything he will need.

9. Prepare pads or dressings for abdominal incisions and describe various bandages for retaining them.

10. Bandage the thumb and the ankle including the heel. Give width of each bandage and material composing them.

NURSES. PHYSIOLOGY.—Dr. A. M. Brailsford, Examiner.

1. Of the functions of the eye, what is understood by "accommodation"?

2. Name the secretions of the alimentary canal.

3. (a) What is meant by glands of internal secretion? (b) Mention two of them.

4. Give an example of a reflex nervous act.

5. Mention the glands of the skin.

HYGIENE AND SANITATION.

1. Discuss disinfection in connection with nursing contagious diseases.

2. (a) What should be the proper temperature for a living room in winter? (b) How would you ventilate a sick room during cold weather?

3. How may milk be the means of transmitting disease?

4. What hygienic directions should be given a patient suffering from pulmonary tuberculosis?

5. During what season of the year are contagious diseases more prevalent? Why?

NURSES. PRACTICAL NURSING.

Dr. A. Earle Boozer, Examiner.

1. What are the qualifications of a good nurse for nervous patients?

2. Give care of room and patient while nursing in private home.

3. Give preparation and administration of enema for (a) laxative, (b) nutritive, (c) astringent purposes.

4. Give method of manipulation in massaging for ease of chronic constipation.

5. What are the nurse's duties in emergencies, as (a) Hemorrhage, (b) Vomiting, (c) Shock?

BOOK REVIEW

CANDY MEDICATION.—By Bernard Fantus, M. D., Professor of Pharmacology and Therapeutics, College of Medicine, University of Illinois, Chicago, St. Louis C. V. Mosby Company, 1915.

This is the only book published, that we are aware of, on this subject. It is especially designed to aid the physician and druggist in preparing palatable medicine for children. Price $1.00.

A HANDBOOK OF INFANT FEEDING.—By Lawrence T. Royster, M. D., Attending physician Bonney Home for Girls and Foundling Ward of the Norfolk Society for the Prevention of Cruelty to Children, Physician-in-charge of King's Daughters' Visiting Nurse Clinic for Sick Babies. Illustrated. St. Louis, C. V. Masby Comany, 1916.

The author has resented in this volume many facts which will be of great value to the busy doctor. Dr. Morse of Boston has written an excellent chapter on the stools of infancy. Price $1.25.

DIAGNOSTIC METHODS.—A guide for History Taking, making of Routine Physical Examinations and the usual Laboratory Tests necessary for students in Clinical Pathology, Hospital Interns and Practicing Physicians. By Herbert Thomas Brooks, A. B., M. D., Professor of Pathology, University of Tennessee, College of Medicine, Memphis, Tennessee Third Edition, revised and rewritten.

This is an excellent little manual to which the student, interne or physician may refer quickly for practical points in making most of the modern tests either in general practice or in the laboratory. Price $1.00.

A PRACTICAL TREATISE ON INFANT FEEDING and ALLIED TOPICS.—For Physicians and students, by Harry Lowenberg, A. M., M. D., Assistant Professor of Pediatrics, Medico-chirurgical College of Philadelphia; Pediatrist to the Mt. Sinai Hospital; Pediatrist to the Jewish Hospital; Pediatrist to the Jewish Maternity Hospital; Consulting Pediatrist to the Hebrew Orphans Home; Assistant Pediatrist to the Medica-Chirurgical Hospital and to the Philadelphia General Hospital; Formerly Instructor of Pediatrics, Jefferson Medical Hospital. Illustrated with 64 Text Engravings and 30 Original Full Page plates, all of which are in colors. Philadelphia, F. A. Davis Company, Publishers, English Depot, Stanley Phillips, London, 1916. Price $3.00.

Dr. Lowenburg has succeeded in giving the profession a very attractive book in many respects. He has especially simpli-

fied the whole matter of artificial feeding of infants. The diseases resulting from malnutrition have been cleverly discussed with a freshness of thought that makes the reading of this large section of the book a real pleasure. The illustrations are good and the publishers have executed their work creditably.

A LABORATORY MANUAL OF QUALITATIVE CHEMICAL ANALYSIS.—By A. R. Bliss, Jr., M. D. Ph. G., Professor of Chemistry and Pharmacy in the Birmingham Medical College. 244 Pages, with working tables. Philadelphia and London: W. B. Saunders Company, 1914 Cloth $2.00 net.

The text was prepared for the first-year medical, dental and pharmacy students. It treats of the systematic procedure for detection and separation of the most common bases and acids, in such a manner as will permit the student to gain a fair knowledge of theory and methods of elementary qualitative analysis. It is well adapted for the use of those deprived of chemical instruction in their early studies. and the instructions are so plain that one can follow the subject without the aid of an instructor and with only the simplest of apparatus.

THE CLINICS.—Volume 5, Number 1. of John B. Murphy, M. D., at Mercy Hospital, Chicago, February, 1916. Published Bi-Monthly by W. B. Saunders Company, Philadelphia and London.

Murphy's Clinics for February consists largely of Bone Surgery. Dr. Murphy is at his best in this sphere and has won fame throughout the world for his original ideas and hold operative procedures. Among the interesting subjects we note the following:

Congenital Cyst of Neck Extending into Axilla—Expectant Treatment. Ulcer of Duodenum—Duodenorphaphy — Posterior Gastro je junostomy by Button Method. 2. Retroversion of Uterus—Round Ligament Suspension. Luxation of Third Lumbar Vertebra with Compression of Cauda Equina—Spinal Decompression.

Ankylosis of Hip-Joint, Dense and Fibrous in Type, from Ancient Infection—Arthroplasty by the Fat-Facia Flap Method—Talk on Technic of Arthroplasty of Hip-Joint.

Osteomyelitis of Femur—Sequestreetomy (Two Cases).

Bony Ankylosis of Knee-Joint—Three Stage Operation of Arthroplasty—Talk on Arthroplasty of Knee-Joint.

Hallux Rigidus—Resection and Arthroplasty; Pes Planus—Elongation of Peroneal Tendons.

PELLAGRA.—By George M. Niles, M. D., Gastro-enterologist to the Georgia Baptist Hospital, Wesley Memorial Hospital and Atlanta Hospital, Atlanta, Georgia. Octavo of 261 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1916. Cloth $3.00 net.

The first edition of this book was well received by the profession. This second revision is just off the press and embodies the results of all the important recent investigations, including the investigations of Dr. Goldberger of the Public Health Service and the Thompson-McFadden Pellagra Commission. The author is unwilling to admit that the cause of Pellagra has yet been discovered, but expresses the conviction that we are much nearer the goal of etiologic certainty, pathologic assurance, and consequent therapeutic confidence. The publishers have done their work well and the entire volume is creditable.

CANCER OF THE STOMACH.—A Clinical Study of 921 Operatively and Pathologically Demonstrated Cases, by Frank Smithies, M. D., Gastro-enterologist to Augustana Hospital, Chicago. With a Chapter on the Surgical Treatment of Gastric Cancer, by Albert J. Ochsner, M. D., Professor of Clinical Surgery in the University of Illinois. Octavo of 522 pages with 106 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, $5.50 net; Half Morocco, $7.00 net.

It has been about ten years since a monograph has apeared on this subject. During this period enormous advances have been made in the diagnosis and treatment of diseases of the stomach.

Cancer of the stomach, as well as cancer elsewhere in the body, has been the subject of intensive studies in all parts of the world. The vast experience of the author in some of the worlds greatest clinics together with the surgical treatment by Dr. Ochsner makes up a very interesting resume of our knowledge. The book is well printed on good paper and there are a large number of valuable X-ray illustrations, in addition to numerous illustrations

on the surgical technic of the operations on the stomach.

SEXUAL IMPOTENCE.—By Victor G. Vecki, M. D., Consulting Genito-Urinary Surgeon to the Mt. Zion Hospital, San Francisco. Fifth edition, enlarged. 12mo of 405 pages. Philadelphia and London: W. B. Saunders Company, 1915. Cloth, $2.25 net.

Vecki is a conservative writer of wide knowledge and experience. He gives full credit to the originators of many valuable instruments which have revolutionized this branch of medicine and which bid fair to ultimately redeem it from much that smacks of quakery.

We commend the book as being not only a scientific exposition but a common sense treatment as well.

(Continued From February Issue)

THE PRACTICAL MEDICINE SERIES.—Comprising ten volumes on the year's progress in medicine and surgery. Under the general editorial charge of Charles L. Mix, A. M., M. D., Professor of Physical Diagnosis in the Northwestern University Medical School.

Volume IX., Skin and Venereal Diseases, Edited by Oliver S. Ormsby, M. D., Professor and head of the department of skin and venereal diseases, Rush Medical School with the collaboration of James Herbert Mitchell, M. D., research fellow in Pathology, Rush Medical College. Miscellaneous Topics, Edited by Harold N. Moyer, M. D., Series 1915, Chicago, The Year Book Publishers, 327 S. LaSalle Street. Price $1.35.

This special branch of medicine has become more interesting with the advances made in treatment, in recent years. It is only to mention salvarsan, radium, X-Ray, researches in Serology to recall a great field of endeavor. This volume discloses the results of much of the investigations recently undertaken.

THE PRACTICAL MEDICINE SERIES.—Comprising ten volumes on the year's progress in medicine and surgery. Under the general editorial charge of Charles L. Mix, A. M., M. D., Professor of Physical Diagnosis in the Northwestern University Medical School. Volume X. Nervous and Mental Diseases, Edited by Hugh T. Patrick, M. D., Professor of neurology in the Chicago policlinic, clinical professor of nervous diseases in the Northwestern University Medical School, ex-president Chicago Neurological Society, Peter Bassoe, M. D., Assistant Professor of Nervous and Mental Diseases, Rush Medical College, Series 1915, Chicago. The Year Book Publishers, 327 S. LaSalle Street. Price $1.35.

The war in Europe has furnished considerable material for this volume. The surgery of nerves and the effects of the war on the nervous system have frequently been alluded to in the medical Press of the past year.

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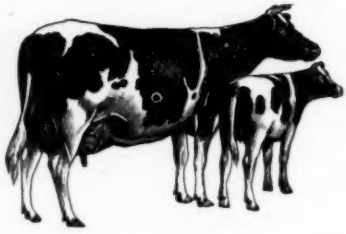

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Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.

Annual Subscription, $2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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EDITORIAL

President Neuffer Praises the Journal.

It is needless to say that the entire editorial staff appreciates the favorable comments made by President Neuffer on the progress made by the Journal. Much of the improvement in the scientific aspect of the Journal is due to an awakening scientific spirit all over the state and to an able staff of associate editors.

Comments on Charleston Meeting.

The extraordinary interest in the Charleston program led us to attempt too much along certain lines, or rather we failed in properly balancing the program, so that none of its features might suffer undue neglect. It must be borne in mind, however, that we were in part pioneering.

The clinics at the Roper Hospital were very interesting and largely attended, and in future some feasible scheme will be worked out so that we may profit by our first experience, and thus continue this innovation.

The program of papers, we believe, has reached the point where limitation should be seriously considered by the Scientific Committee.

Practically every live, progressive society finds such a course necessary. Our program this year, owing to the number of papers and other features, precluded the reading of all of them or much discussion. The remedy is obvious—fewer papers.

The Medical College richly deserves

the numerous expressions of surprise at the excellent equipment now afforded prospective medical students, in our own state. The Charleston meeting then was a record breaker and we believe points us to still greater accomplishments.

Entertainment: If the Association does not desire to be entertained in a whole-hearted atmosphere of genuine hospitality it should not vote to meet in Charleston. The cordial greetings were every where evident and especially so to the large number of ladies present. The latter feature of our program was a marked success.

Dr. C. B. Earle of Greenville President.

The election of Dr. C. B. Earle of Greenville to guide the destinies of the State Association for the next year will be gratifying news to the great majority of our membership. We merely make the announcement at this time, as a more extended write up will appear in our next issue.

It goes without saying that Spartanburg for the next place of meeting also meets with approval by our members.

Charleston Meeting Largest Ever Held.

The meeting of the State Medical Association at Charleston this month exceeded, by far, the attendance of any meeting in the sixty-eight years of our existence. The number present at one time approximated 300. Indeed for the addresses of Drs. Mayo and Barker, there was not room enough to accommodate comfortably all who desired to hear them. We take it that nothing like this has ever been witnessed by even our oldest members.

President's Address.

In this issue appears President Neuffer's address and it is a highly satisfactory resume of at least a decade of constructive progress for the South Carolina Medical Association. Perhaps few of our members are aware of the enormous strides we have made and therefore the entire membership owes Dr. Neuffer a debt of gratitude for bringing so clearly before us the scope of our activities.

Duodenal Ulcer.

Many chronic diseases appear prominently at certain seasons. There is, in other words, a distinct periodicity. In our Southland we have always noticed the prevalence of intestinal disorders in the spring and early summer. Typhoid makes its appearance in the late summer and fall; but now with improved sanitary conditions, physicians instructing their clientele in preventive measures, with the advent and rather wide adoption of vaccination against the disease, it is becoming less prevalent. During the past few years Pellagra has become such a definite clinical entity and marked with such certain periodicity that we have learned to expect the disease to appear in the spring time and are therefore on the alert and ready to recognize it in the incipient stage. In fact, periodicity is quite a characteristic of many diseases we are called upon to recognize and treat.

Probably the most definite clinical entity in the whole category of diseases and one that is marked in no uncertain degree by its periodic exacerbations is DUODENAL ULCER. Now with the advent of the spring season the old ulcers that have been quiescent during the winter months are most certain to make themselves known to their victims. The disease is probably three

times as common in the MALE as the female. It is quite common during MIDDLE LIFE. Many cases are seen in young men under twenty and also in old men past sixty, but the middle, active life seems to be the favorite time for Duodenal Ulcer. It is quite true that many of these cases we see give a ten to twenty year history which means the disease began in earlier life. The great majority of cases coming to the surgeon or internist today are the ones who have been "cured" of from eight to fifteen spring attacks.

CHRONICITY is, therefore, another feature of the disease which we must take into account. When a man complains of having had stomach trouble over a period of several years with marked spring and fall exacerbations, the attacks lasting two to six weeks, followed by a free interval, one should always think of Duodenal Ulcer.

PAIN is quite a common feature of the disease. To be significant it must appear at a definite time with reference to food ingestion. The character of the pain is rather typical. Given a case complaining of a "hunger" pain or a gnawing, empty sensation coming on from two to three and a half or four hours after meals and in the middle of the night, with definite relief by taking food or alkalis, one should be reasonably certain the case is Duodenal Ulcer.

VOMITING or spitting up very sour water is a factor to be noted in most cases for the acidity of the gastric content is usually very high. However, vomiting is not such a constant feature unless it be late in the disease when the healing of the ulcer has formed a cicatrix which has produced more or less of an obstruction at the outlet of the stomach. Not until this stage of the disease would one expect nutritional changes. If the ulcer has not produced such changes, the individual usually does not suffer any loss in weight but often will gain during the attack because of the taking of extra food to relieve pain.

The treatment of Duodenal Ulcer before it has gone on to pyloric obstruction may be either medical or surgical. Many good internists believe acid corrosion to be the cause of pain. The attacks may be relieved by drawing off the gastric contents at night, frequent feeding and the administration of alkalis to neutralize the acidity. The oedema about the ulcer will then subside and any obstructive symptoms caused by the oedema will be relieved.

The other view is held by most surgeons. That is, that the condition is primarily surgical and should be so treated. A gastroenterostomy, with or without pyloric blocking, will suffice to change the chemistry of the stomach contents and also give drainage. Most cases are relieved quickly and remain cured. The benefits are especially noted in cases showing some obstruction.

Gastric analysis and Roentgen Ray examination of the stomach after bismuth meal are aids to diagnosis, but given a case with a typical clinical history one can make a correct diagnosis in 95% of the cases without any laboratory tests. The clinical data to be looked for may be summarized as follows: 1. Middle age—Male. 2. Chronicity. 3. Spring and fall attacks, or periodicity. 4. Pain two to four hours after meals. 5. Definite food ease or relief by soda. 6. And frequently sour brash.

Tonsils.

(Continued From Last Issue)

When should tonsils be removed? A casual reply would be to say. (1) When they cause systematic disease. (2) Local irritation. (3) Mechanical obstruction. This classification appears quite obvious, but in practice it is sometimes a profoundly difficult feat to

fix the blame for systematic infection on tonsils.

Until quite recently our comprehension of diseased tonsils was so limited that only the grosser forms of disease of this organ were recognized, in fact, it was almost invariably the rule to remove only the enlarged tonsil. Surgeons of a few years ago classified tonsils as normal, diseased and hypertrophied. To our mind this was tautology because all enlarged tonsils are diseased. We contend that to be diseased is not sufficient reason for removal, they must be sufficiently diseased or subject to frequent attacks of disease which cause them to be a menace to the health and comfort of the individual before enucleating them. After twelve years of age the tonsil which protrudes beyond the faucial pillars is more or less diseased. At this age the normal tonsil is quite small and atrophic.

One is justified in removing **an apparently normal** tonsil for various reasons, for instance when an individual is subject to frequent attacks of tonsillitis, or after one attack which has wrought serious mischief to the economy, thus preventing further inroads of disease thru the same portals. If we stick to this argument then many a surgeon can justify his slaughter of the innocents, but judging by the lack of investigation given to many of our tonsillectomy cases, I do not think that the justification for the activities of many of our Laryngologists rests on a very solid foundation. After a **very careful** and complete history of a case it is sometimes possible to fix the guilt of past offences on a perfectly innocent looking tonsil. Then the punishment should not be decapitation or mutilation but a careful extermination.

So much for apparently normal tonsils, but how shall we know when they are diseased? This opens up one of the most important chapters in internal medicine. Viz.—The relation of focal infection to systematic disease.

Laryngologists are rapidly equipping themselves to deal with the question of focal infection, they are frequently called on to decide whether the tonsils are a factor in cases of Bright's disease, neuritis, rheumatism, enlargement of the thyroid, inflammation of the eye, headaches, appendicitis, malnutrition from obscure causes, etc., etc. This involves a splendid scientific equipment and often a vast amount of labor. In this connection the specialist's investigation should not be limited to the tonsils, but to the vault of the pharynx and to the ten cavities in the upper story. Our observation is that the accessory nasal cavaties are quite frequently the source of focal infection and often do we find adenoids the unsuspected sinner.

The question is, how accurately can we tell when the tonsil is at fault. We believe that in many cases it can be done only after a careful study and accurate history, and the co-operation of a capable internist. In cases where we can not positively incriminate the tonsil, can we definitely exclude it? We think not. When in doubt give the patient the benefit of the doubt and remove the tonsils. We have seen cases of neuritis, acute nephritis, arthritis, hyperthyroidism and rheumatism disappear after such operations. We believe that in one hundred cases of focal infection from all sources that the tonsils are responsible for at least 50% of cases. This estimate has been worked out by careful diagnosis and analysis of a large number of cases of focal infection by carful observers. If the above estimate approximates the truth, then in the absence of other sources of offense, we must admit that the probability of sin lies largely with the tonsil.

A blood count often furnishes valu-

able evidence, where every source of infection has been ruled out except that of a doubtful pair of tonsils. If there is focal infection a polynucleosis will be present. Enlarged cervical lymphatics usually tell the story of focal infection, when they are enlarged we can be quite certain of the source of infection. This is conspicuously true of children. In adults for some reason unknown to us this rule is not as uniformly true.

ORIGINAL ARTICLES

MEDICAL PREPAREDNESS IN SOUTH CAROLINA.

By G. A. Neuffer, M. D., Abbeville, S. C.

Gentlemen:

THE custom of our Association demands that I prepare an address and present it to you at this time. In complying with this, I wish again to thank you for the high honor you have conferred upon me and I assure you that while I have been deeply appreciative of the honor, I have not been unmindful of the responsibility that came with it.

I shall endeavor this morning, in a plain, everyday manner, to present to you some facts and opinions, which I am impelled to believe will be of interest and profit.

It has been demonstrated that preparedness is essential to the success of the nation, the country, and to the individual. The country that is best prepared makes the best showing in time of war; the corporation that is best prepared makes the better showing in the matter of dividends; the individual that is best prepared by education and training makes the better showing in fighting the ordinary battles of life; the physician that is best prepared makes the greater success in the practice of his chosen profession.

Hence, our profession, upon which rests the burden of the ceaseless fight against disease, suffering and death, must, if we meet this important duty, be prepared. It is not only incumbent upon us to fight disease, but we must do all in our power to prevent it.

The astonishing growth of the scientific spirit among medical men and the unwearied use of research, and special methods of diagnosis is but an evidence of the spirit of preparedness, which is taking hold of the medical profession, as well as other departments of life.

I shall attempt this morning to show you what the profession has done in South Carolina in the way of preparedness and study the results already accomplished with the view of stimulating our profession to a still higher degree of medical preparedness.

The first step in advance was the publication of a monthly journal by this Association instead of an annual transactions as was formerly done. The suggestion of a journal instead of the annual transactions was first made by Dr. W. P. Porcher about the year 1900, but nothing was done about it until the meeting, held in Greenville, by our Association, in 1905. At this meeting in a remarkable address, which might really be called the foundation of preparedness of our profession in this state, by Dr. Robert Wilson, Jr., the

President's Address before the South Carolina Medical Association, Charleston, S. C., April 19, 1916.

president of our Association at that time,—again suggested the monthly Journal, instead of the previous transactions. The House of Delegates, after much discussion, decided to change the plan and adopt the monthly journal instead of the previous transactions. The first copy of the journal was published June 21, 1905, and had as its editors, Dr. Robert Wilson, Jr., Dr. T. P. Whaley and Dr .C. P· Aimar, all of Charleston, South Carolina. The Journal has been published regularly ever since and in my opinion, has been both a financial and scientific success. I believe that the State Journal is of more practical value to the every-day practitioner than many of our other journals, which might be called more ultra scientific, for the reason that we are enabled through these pages to talk to each other; to tell of the things that happen to us in our every day practice; things which we do, and things which we think about; how we meet emergencies which confront us back in the country, without a college or hospital to call upon for consultation, or help. Our Journal is high class in every particular and is especially so in the matter of advertisements, carrying none but those approved by the Bureau of the American Medical Association. I desire to urge upon every member of the Association to continue to give the State Journal his unselfish and untiring support; to write for it; to read it, and to speak a good word for it, always.

A word now about our medical colleges: The opportunities for preparedness, which were offered to the medical student some thirty odd years ago, when I entered college, were very meagre compared with the advantages the student of today has. At that time we had just seven cardinal branches taught. There were seven professors with probably three or four assistants, there were no full time men employed, but the services of the teachers were rendered simply for the love of the work.

Preparedness is shown by the greater advantages presented today. More is required of the physician now than formerly, more discoveries are being made, new methods of examination and diagnosis are being perfected and the South Carolina doctor must prepare himself, he must stand on the rock of preparedness or get left in the struggle.

The medical college of the State of South Carolina is now a State institution and is supported in a large measure by the State, thus giving it the solid and substantial backing which enables it to fix the same requirements as all other first class colleges. The medical college of Charleston is rated as class "A", the highest class of medical colleges to be found anywhere and is a member of the Association of American Medical Colleges.

The entrance examination and requirements are higher than any other Southern medical college, with one exception. The college is fully equipped with laboratories of chemistry, bacteriology, physiology, anatomy, histology, pathology and clinical pathology. It is recognized that laboratory teaching, next to clinical teaching, is the most valuable means of producing young doctors of ability and high qualifications. The laboratory teaching in our college is in charge of full time men; that is men who devote their entire time to teaching, and who do not have any private practice to divert their attention and to encroach upon the time they give to the college.

The college is immediately opposite Roper Hospital and has complete control of the hospital and dispensary service; this combined with free dissecting material, makes the opportunity

for clinical study unsurpassed anywhere.

Opportunity for preparedness on the part of the medical student is offered here that can nowhere be excelled and the young doctor, coming out with a diploma from this, our own institution, is prepared to win out in the battle for success.

Alabama and South Carolina are the only two states where the State Medical Association is the State Board of Health. In this State the legislature made the South Carolina Medical Association the State Board of Health, but of course, this is too cumbersome a body to carry out the official and executive duties of this board, consequently an executive committee of seven is elected by the Association. This committee then elects a secretary, who is the State Health officer and the executive officer of the Board. The work of our State Board of Health stands at the head of the list and we are indeed very proud of what this State is doing for its citizens through its Board of Health in the way of disease prevention; in the way of instruction in health matters, and in the treatment of contagious diseases. In the matter of diphtheria antitoxin we furnish free of charge to all, this antitoxin both for prophylaxis and treatment of the disease. In the old days, before anti-toxin was discovered, when the physician was called to a case of diphtheria, he realized at once that there was to be from one to three weeks of suffering on the part of the little sufferer; of anxiety on the part of the parents and members of the family, which generally in nine cases out of ten, ended in a funeral. We had nothing then to control this terrible disease and felt our helplessness whenever we made a diagnosis. The discovery of diphtheria antitoxin by Behring was the greatest boon to little children, and who of us, but would appreciate and honor those who can be of service to the children, and realize that what is done for the child is the greatest good that can be done in the world. Since the use of antitoxin in diphtheria we feel that if we are called to, or can see our patient within three days after diphtheria has developed, and have antitoxin within our reach, instead of nine deaths out of ten, we hardly expect one out of ten.

The State, through its Board of Health has placed diphtheria antitoxin within easy reach of all physicians and no physician should have a clear conscience, who, upon making a diagnosis of diphtheria, fails to use antitoxin, which is furnished to him free of all charge, by the State.

In 1915 one thousand, nine hundred and forty-seven cases of diphtheria received antitoxin. In that year the State spent for diphtheria antitoxin $8,948.20. The deaths from diphtheria for 1915 were seventy-five and we hope by the continued fight upon this terrible disease, to yet further reduce this number of deaths.

Another disease which presents to those of you who have seen it, horrors more terrible than Dante's Inferno, is rabies. We had no cure for this until Pasteur invented his innoculation treatment and this is the one cure which we have for this disease today. South Carolina, in keeping up with this medical preparedness, now furnishes this treatment free to any and all who are so unfortunate as to be bitten by a rabid animal. In 1915 there were 247 cases treated with no deaths. This one thing is almost worth all the money that the State Board of Health has been giving.

Meningitis has shown its head in the State, and this you also know is a most fatal disease, but I am very glad to be able to tell you that the State Board of

Health is now prepared to furnish serum for its cure.

Typhoid fever is universal—we have it from the mountains to the seaboard; we have it in the summer; we have it in the winter; we have it in all classes of people; the poor, the well-to-do; the weakly, the strong. From an economic standpoint the loss to the State which does not take care of its typhoid situation is immense. So often the head of the family is the one who is sick and for weeks unable to work; thus adding not only the actual expense to the family for food, nursing and medicine, but cutting off the income, therefore, it is certainly a good investment, if nothing else, from a financial standpoint for the State to carry its work against typhoid and to take advantage of Sir Almroth Wright's discovery of typhoid prophylaxis in the fight against typhoid fever.

(The State Board of Health makes the Widal test, which when we receive a positive answer enables us to make a diagnosis of typhoid early in the course of the fever.) The State distributes free of charge typhoid vaccine, having sent out in 1915, 35,397 ampules for use in our fight against typhoid. The number of cases of typhoid fever has been very much reduced, but much remains yet to be done along this line. Whenever a case of typhoid fever is diagnosed in a family, it is the duty of the physician in attendance, and would be much to his advantage to innoculate the remaining members of the household.

In connection with the distribution of typhoid vaccine and the prevention of typhoid, the war against flies must be kept up.

(There were 4,220 Widal tests made in 1915, and this was of great value to the physician in the country, who is too busy to make this test, even if he had the proper apparatus to do it with.) There are a number of other tests which are made for the physician free of charge and which are of great value to him, thus better preparing him to treat these diseases, hookworm, malaria, bacillus coli in drinking water, the gonococci; sputum is tested for the tubercular bacilli and the State Laboratory is now about ready to make the Wasserman test.

The issuing of monthly bulletins on timely health topics by the Board of Health is a very valuable means of educating and instructing the people throughout the State as to the best means of keeping themselves healthy and their homes and grounds sanitary.

This Association is to be congratulated after a long and hard fight, we now have the vital statistics law in operation, thus putting us in line with other progressive States. By this law we can keep track of the various diseases and deaths therefrom. Infected places can be located and the cause of disease discovered.

As a matter of interest, I might mention in this connection the vital statistics report which shows the birth rate in our State very much exceeds the death rate.

After having been successful in this matter, we should now bend our efforts to secure the medical inspection of schools. This measure, just as the vital statistics law, is met with strong opposition from various sources, but I really believe that the most of this opposition comes from the fact that the public is ignorant of the value of this step, therefore, it is our business to educate the law-makers and the officers in power, as well as our citizens generally, of the need of this law, and convince them that this law will work ultimately for the best interest of the children now in school, and will enable them to study better, to develop better mentally and physically and that it will also make

children better and stronger men and women, in after life from both a mental and physical standpoint.

In Sweden the medical inspection of schools has been in force for fifty years, and in that time the average length of life has been increased ten years.

In Greenville County the United States Public Health Service is making a house to house health survey. There are nine officials in this service detailed for the work and it is quite a distinction, not only for Greenville, but for South Carolina, as they are making this survey in only two counties in the United States; the other being, I believe, in Washington. Greenville was selected because she was progressive enough to have a whole time county health officer. These men will visit every home in Greenville County; will make a thorough inspection of the house, outbuildings, the grounds, water and milk supply, also an inspection of the family and will bring to the attention of the heads of the family any defects or unsanitary condition about the house or grounds.

Now your board of health is doing some intensive work; that is health survey work, they are doing the best they can with the limited means at their disposal and they are now having a health survey made in two other counties of the State. This work done by the State Board officials is similar to the survey being made in Greenville County and of course, must be of benefit to the people of these counties.

The matter of tuberculosis stares us in the face as being the most serious one. The mere fact that in 1915 there were two thousand deaths from this cause in the State of South Carolina, should be sufficient to make us more determined to stamp out this disease and it is a fact that throughout the whole country, with war waged against it on all sides that it is on the decrease, and yet there are thousands and thousands of cases still in existence. There are probably today ten thousand cases of tuberculosis in South Carolina. Now, if there are ten thousand cases in South Carolina today, and if we had two thousand deaths in 1915, from an economic standpoint, it will pay the State to take care of this situation and to spend any amount of money that is necessary to arrest the progress of a disease with such results as are here shown. The loss in earning capacity of those who are afflicted with the disease, the expense necessary in caring for those who are afflicted with it, because in nearly all cases it is long drawn out, long periods of time when the sufferer is unable to earn anything for himself and is an expense to his family and a drain on the State, therefore, I would urge this axiom upon you, that no matter how much the State of South Carolina spends for the care of, or for the prevention of tuberculosis, it is money well spent and I am free to say to you that our State, through its general assembly working under the control of the State Board of Health is doing a good work; is doing all that can be expected of it in this fight against tuberculosis and we want this work to be continued and extended. We want it to be so arranged that every tuberculosis patient can be segregated and cared for, thus cutting the number of cases down because the old idea obtained in years gone by, that tuberculosis was hereditary was one of the reasons that it has spread extensively, now we know that heredity plays a very small part in tuberculosis, but that it is most infectious; that houses, beds, bed clothes, floors, ceilings, books, and various other things become infected with the germs which in a dry state may lie dormant for months, or years, and then upon being inhaled by

persons in perfect health, they afterwards develop tuberculosis.

In addition to making examinations of sputum in suspected cases, the State maintains at State Park, near Columbia, a tuberculosis camp. This camp is located in a pine forest, upon a high elevation and is apparently an ideal spot for the purpose. The grounds are ample and the men's ward, which is now being occupied, is built upon the most scientific plan. The administration building in the center of the grounds is also built on the most modern lines. The contract has been let for a women's ward to be built opposite the men's ward.

There does not seem to me to be any need for cases of tuberculosis to go to the Adirondacks, or even to Colorado, when they can secure through the goodness of our State, equally as good treatment at the South Carolina Tuberculosis Camp.

The medical man in charge is one who has had considerable experience in this line of work and who is devoted to his duty at the camp.

As another evidence of preparedness in South Carolina, we have the State Board of Corrections and Charities, who through their officials, are making a survey of South Carolina, are finding out in the first place the mentally deficient, and this brings to my mind the question of feeble minded children. It is a fact that throughout the State there are hundreds of children who have small deficiencies; others more deficient, and the third class those who are almost imbeciles. Of course, there is nothing to be done for this class, and very little for the second class which I mention, but there are a large number in the first class, who, with proper care, with expert teachers to instruct them, can be brought to a status where they can earn their own living, take care of themselves instead of being a menace to society, can be made useful, if humble citizens. It has been shown that almost seventy-five per cent of the criminals have come from the ranks of the feeble minded and we know that feeble minded men and women beget feeble minded children, and are very prolific, thus continuing to perpetuate this class of our citizens. At present there is no institution or place where the feeble minded are cared for and instructed. This is one particular in which South Carolina is altogether lacking in preparedness and the building of such an institution appeals very strongly to me and I only wish I could make it appeal to the members of this Association just as strongly.

I would urge upon the members of this association, whenever possible, that we give to the officials of the State Board of Charities and Corrections all the assistance in our power and I would suggest that some systematic and organized effort be made to have a separate State institution made for the care and training of feeble minded children.

To keep up with the preparedness procession we must take our place and do our part in the great work of first aid to the injured. This is a recognized movement for good; a national first aid conference has been organized with its headquarters in Washington, D. C. First Aid Committees have been appointed in each State, the South Carolina committee has been appointed, and I would urge you to give this committee your unselfish support.

In the matter of military medical preparedness in our state these days and times, when there are wars and rumors of wars, we are, as we were during the time with the war with Spain, culpably deficient in our military medical service. There have been efforts ever since to meet this, and recently,

last month, Major Page, a surgeon in the regular army, made a visit to South Carolina in the interest of the medical reserve corps. I had the pleasure of hearing Major Page deliver a lecture in the City of Columbia on this subject. As I understood him, the government wishes medical men in the State, who are under forty-five and otherwise qualified, to catalogue themselves with the government and to take advantage of a training which the government offers them. This cataloging means that the government, then, in the case of need would know where to put their hands upon medical men; just what his abilities are; his scientific and physical abilities, and thereby having, as it were, a medical reserve corps ready to be called upon at the moment of need.

The improved conditions at our State Hospital for the Insane, are also, to my mind, evidences of medical preparedness. The treatment accorded the unfortunate patients now, the taking off of restrictions which were formerly placed upon them and the occupational treatment and the exercise they are given by the way of playing games in the manner of examination and the way in which their case histories are made up and the reports sent out upon individual cases all show that our State hospital is now being put on a modern and up-to-date basis. The present management deserves the "well done" not only of our profession, but of the State at large and any doubt on this matter will be dispelled by a visit to the hospital and an inspection of the different departments of that institution.

From the foregoing I believe you will agree with me that South Carolina is and that we are at work along the right lines.

I want every member of this Association to realize that it is incumbent on him to do all in his power to keep this work up; that he must sustain and support the executive committee of the State Board of Health in all their undertakings; by his personal efforts and by bringing these matters to the attenin a fair state of medical preparedness tion of the members of the general assembly from his county, showing them the important work we are doing and impressing on them the necessity of continuing it; by the proper legislation and appropriations.

And thereby we will build up a better medical preparedness in South Carolina that we have now.

A RESUME OF THE PAST SIX MONTHS' PERSONAL EXPERIENCE IN SURGERY.

By B. B. Steedly, M. D., Spartanburg, S. C.

IN trying to decide on a title for the paper to read before you today, I was inclined to select a subject which would include the affections of some one organ in the body and elaborate on this, but upon further consideration I concluded that my expressions would strike a more responsive chord, if I should call attention to what appear to be salient points in connection with some of the groups of cases, such as are encountered by a surgeon in the course of about one-half year.

While the list given below dates back to six months, it represents only about 4 1-2 months work, as I was absent six weeks during this period, Dr. Zimmerman, of course, operated for me in my absence, but I here refer to personal work only.

This grouping is as follows:

Abscess, Hip, For.....	1
Ing.	2
Liver	1

*Read before the Orangeburg County Medical Society, October 19th, 1915.

Mastoid 1
Sacral 1
Adenectomy 26
Amputation of cervix 3
finger 3
toe 2
Appendectomy, Routine 39
Chronic 13
Acute 26
Ruptured 7
Ruptured with general peritonitis ... 2
Caesarean Section 3
Cancer of breast 3
Cancer of rectum 2
Castration 2
Cellulitis, foot 1
Hand 4
Cholecystectomy 8
Cholecystostomy 3
Circumcisions 6
Cystocele, Plastic for 1
Dilatation cervix 2
Dilatation cervix and curettage 43
Dilatation cervix and curettage for incomplete abortion 5
Ectopic pregnancy, Ruptured 1
Empyema of Maxillary sinus 1
Empyema Thoracis 1
Excis. Bartholinian gland 1
Bursa foot 1
Cervical polypus 1
Cervical adenitis 1
Carbuncle neck 1
Fibrous nasal polypus 1
Growth neck 1
Lipoma ear 1
Needle arm 1
Elbow for tuberculosis 1
Urethral carbuncle 1
Sebaceous cysts 2
Exploratory for needle in gluteal region for sarcoma of pelvis.... 1
Fissure in ano, For 3
Fistula, For rectal 3
Fractured skull, For 2
Goitre, Cystic 1
Gunshot wound abdomen 1
Gastro-enterostomy 2
Hernia, Strangulated 3
Ing., Reducible 3
Femoral 3
Post-op. 1
Haemorrhoidectomy 10
Hysterectomy, Complete 8
Supra-vag. 12
Intestinal obstruction from vicious adhesions 2
Laminectomy 1
Nephropexy 2
Oophorectomy, Single 17
Perinaeorrhaphy, For incomplete laceration 22
Perinaeorrhaphy, For complete laceration 2
Prostatectomy, Supra-pubic 2
Rectocele, Plastic for 1
Reduction of dislocated and fractured elbow 1
For mal-union of fractured elbow, Open op. 1
Salpingectomy, Single 3
Double 2
Salping-oophorectomy, Single.....11
Double 9
Shortening round ligaments 27
Tonsillectomy 33
Tracheotomy 1
Trachelorrhaphy 6
Tubercular peritonitis, For 1
Tubercular sinus back, For 2
Urethrotomy 2

The total number of persons operated on was 259. There were, however, many more operations performed because some required several operations, for example, most cases requiring shortening of the round ligaments also had a curettage and repair work done. Then, while the number of appendectomies is given as 87, 39 of these were removed as a matter of routine. As regards two or more operations under one anaesthesia, each case should be decided upon its own merits. Removal of an apparently normal appendix under these circumstances is such a common occurrence that I offer this argument

in justification. If we advocate vaccination against small pox, all the more should we advocate, when the abdomen is open for other purposes in a region which allows easy access to the appendix, the spending of four or five minutes longer to remove a functionless organ which may become the seat of a disease far more common and fully as dangerous as the one against which we are so particular to vaccinate. I believe it to be the surgeon's imperative duty to remove the appendix in these cases, provided the patient's condition is good.

In taking up the minor operations, I shall first consider the group in which all practicing physicians as well as surgeons should be especially interested, i. e., Tonsillectomy, because it is, with the possible exception of appendectomy, the most common as well as the most abused operation performed. We should not consent to remove tonsils simply because the mother has discovered that the child has them. Much warfare has been waged against this faucial accumulation of lymphoid tissue, the claim being that it is responsible for many and varied infections of the body. While much of this is justified, I feel sure that the pendulum has swung too far and that even healthy tonsils are frequently sacrificed in the hope of curing some obscure disease. One writer in a recent issue of the Southern Medical Journal is very emphatic in the statement that tonsillectomy will cure pellagra. This subject has become a joke with many physicians and I recently heard one remark, ironically, that the last affection added to the list indicating tonsillectomy was ingrown toenail. Healthy and non-hypertrophied lymphoid tissue is never a menace to the system, whether it be located in the fauces, pharynx, at the base of the tongue, or in the general lymphatic system.

It must be admitted that we are frequently called upon for advice regarding tonsils which are on the border line, being neither perfectly normal nor decidedly abnormal. Such cases demand much nicety of judgment, but the majority of diseased tonsils are easy of detection and fall under one of the following headings:

1st.—Those markedly hypertrophied.

2nd.—Cases showing plugging of crypts with retained secretions, ragged appearance of surface and congestion of the throat.

3rd.—Tonsils not obviously diseased but with chronic enlargement of the lymph glands and no other discoverable cause for same.

4th.—Cases having repeated attacks of Follicular Tonsillitis or peri-tonsillar abscess, even though the tonsils appear normal between attacks.

There are many and various methods of removing tonsils, each surgeon preferring his own and being most skillful in the one which he has practiced most. The snare has the advantage of causing less hemorrhage, provided one consumes three to five minutes in drawing down the ring. A very good method is that known as Mathews' finger enucleation, first described by Dr. Frank S. Mathews of New York. I observed him perform this on a number of cases about two years ago and was favorably impressed both because of the ease with which he executed it and because of my previous high regard for him as a surgeon. I tried it out on my next few cases, but was not so satisfied with it in my own hands. I found it more bloody and the traumatism seemed greater. Within the past year, I had a friend persuade me to try the Sluder method and all in this series, numbering 33, were done according to this technic.

I felt from the very first that it had the advantage over other methods and my entire operating staff share with

me the feeling that what was previously an undesirable sort of operation has become a real pleasure. Its advantages are that the tonsil comes out whole with the capsule in a considerably larger percentage of cases than with any other method in my hands, and that it is much more quickly done. There is less bleeding and less liability of injury to the pillars. Some claim that it is not suited to the very soft or fibrous tonsil, but in answer to this it may be said that no method works easy in very difficult cases. From my experience with the Sluder technic, I consider that, other things being equal, the operator who uses it as a routine, saving the very difficult cases for a combination of methods, has, so to speak, a running start on the one who operates in any other way.

While they are nearly half minor operations, as surgical work is usually classed, many of these which I have included in this class were far from minor and gave more anxiety and thought than nine-tenths of the abdominal work. For instance, some of the cases of cellulitis were very stubborn and required the most constant incisions and the insertion of free drainage insufficient, but they required continuous after treatment by immersion in warm boric acid solution, alternating with dressings in order to keep the parts from becoming water-logged.

There was one case of amoebic liver abscess. During the past three or four years six of these abscesses have come to me for operation, three in my hospital and three were operated on at home. The hospital cases are all living, while two of those operated on at home died, not from the operation, for they improved at first and lived a few weeks. The cause of death was insufficient drainage. These cases must be carefully attended afterwards by some one familiar with post-operative treatment. The abscess cavity is so large that there is a tendency for the outlet to close before the cavity has become obliterated. The avenue of approach may be one of several routes and in the small abscesses will depend on the direction it is pointing, but most amoebic abscesses of the liver involves the right lobe and are quite large before they come to operation, so that they are accessible for evacuation and drainage anteriorly, laterally, or posteriorly. Even if it appears to be nearer the surface anteriorly, it is yet quite near enough posteriorly and the uphill drainage necessitated by the incision in the right hypochondriac region greatly increases the duration of convalescence. These patients will not lie in the prone or semi-prone position more than a small portion of the day, no matter how much one explains its advantage for drainage purposes. One case in which I had made the incision anteriorly continued to drain freely for three months. I then made an opening posteriorly under novocain anaesthesia and it entirely ceased draining, with restoration to health in two weeks. In operating through a posterior incision, we materially reduce the risk to the patient, if we avoid entering either the pleural or peritoneal cavity. Anatomically, the arrangement of the peritoneal folds on the posterior surface of the liver and the relationship of the lower edge of the pleura to this surface are admirably adapted to meet this requirement and I am surprised to find this not taken advantage of, as it certainly is safer than either the transpleural or peritoneal route. Since I have not seen this method described, I will give it in detail. When everything is ready to proceed with the operation and not before, enter an aspirating needle immediately below the 11th or 12th rib in the scapular line, directing it obliquely upward. If pus is obtained at a

depth of 1 1-2 to 3 in., allow the needle to remain, as it may have traversed a small section of the peritoneal cavity and its withdrawal might be followed by leakage along the needle track. An incision four inches long is made along the course of the 11th rib, beginning 3 in. from the spine. The periosteum is separated and 3 in. of the 11th rib resected. The lower edge of the costo-diaphragmatic pleural sinus is at this time seen lying on the diaphragm and passing across the bed occupied by the resected portion of rib. It is recognized by its white fibrous structure. This is pushed upward with a piece of gauze so as to avoid injuring it. The fibres of the diaphragm are plainly seen running upward and inward toward the central tendon. These are separated about the middle of the wound and retracted. This brings us to the non-peritoneal area on the posterior surfaces of the liver covered by a little areolar tissue. The upper and lower layers of the coronary ligament demarcate the upper and lower boundaries of this bare area. These peritoneal folds must be avoided while the liver is being opened at this site. After the tension in the abscess is relieved, the aspirating needle which was left in place is now removed and the operation completed by inserting tube and gauze drains.

A few words in regard to appendectomies. As I said before, there were 39 appendices removed as a routine in doing other abdominal operations. There were 13 for chronic appendicitis, 26 for acute appendicitis without rupture, 7 with rupture and localized abscess, 2 with rupture and general peritonis. One of the last died a few days ago and impressed itself on me rather forcibly by terminating a consecutive series of laparotomies for me with no death.

The symptomatology is generally well defined in appendicitis. Pain, nausea, localized tenderness, muscular rigidity, fever and leucocytosis. However, these symptoms and signs are not invariable, for instance, the localized tenderness is not always at the same spot, as, of course, it must coincide with the location of the appendix. This organ may lie anywhere between the liver and the pelvis on the right side and is occasionally found on the left side of the abdomen. I reported a case of this kind a few years ago, the entire colon being on the left side with the appendix lying in the left iliac fossa. This condition is, of course, due to failure of rotation of the colon in fetal life.

During the present month I have encountered two retro-colic appendices, one about midway the ascending colon, the other being subhepatic. The high location of pain and tenderness in the latter case obscured the diagnosis until a perforation and general peritonitis demanded an operation to locate the cause and endeavor to relieve the condition.

We often read that there is no medical treatment for appendicitis. This is, of course, an exaggeration of the actual facts of the case, for while there is no specific medication, there is a form of treatment which has proven beneficial to that class of patients who refuse operation and this treatment has been summarized in four words, rest, ice, opium, and starvation. Please note that this list does not include cathartics and enemata. There should be an absolute contraband on the former and a conditional one on the latter. However, medical treatment must always take second place. If all physicians would take the trouble to carefully explain to their patients suffering from appendicitis the absolute safety of early operation under proper conditions and the disadvantages and danger of trusting to medical treatment,

most of them would accept the recommendation. The trouble is that the subject is often too casually mentioned and the patient instinctively shrinks from operation until he is made to know that any other course is increasing his liability to die.

There were 20 hysterectomies. There was nothing of especial interest in connection with them. Some were done for cancer, some for fibroids, and one or two for arterio-sclerotic changes with menorrhagia and metrorrhagia.

My salphingo-oophorectomies were done for inflammatory conditions, old or recent, and for ovarian cysts. There was nothing unusual in these cases, but I cannot desist from saying a few words on the question of conservative ovarian surgery, this having long been a bone of contention. Regarding ovarian tumors, including true ovarian cysts, there is but one course to pursue—radical removal, but it is otherwise when it comes to dealing with retention cysts of the ovary. When these are single or very few and of some size, say as large as a cherry or larger, excision is the proper remedy. The cases hardest to decide about are the multiple, small Graafian follicle cysts. These are scattered throughout the ovary and some appear as thin walled projections on its surface, the size of a pea. The contents is clear and watery the same as those larger in size. Many such ovaries are unfortunately continually being sacrificed under the mistaken belief that they are of no use, whereas the histories in these cases show that ovulation and menstruation usually have been regular. When the number and size of the cysts have not caused more than a doubling of the size of the ovary, I am of the opinion that it is not likely they are the cause of much discomfort unless the ovary is at the same time prolapsed.

No definite rule can be laid down as to what extent this form of cystic degeneration should have progressed to justify oophorectomy or even partial excision, but each case must be weighed carefully and acted upon accordingly. It might appear at first thought that to consume your time in discussing so simple a thing as a moderately enlarged ovary, the seat of a sclerotic cystic degeneration, is straining at a gnat and swallowing a camel, as the affection itself is very inconsequential, but I am thinking of what the next move may be. Some surgeon opening the abdomen and not finding any other visible cause for the complaints of his patient is going to proceed to rob her of an important organ, itself in no wise responsible for her ills, and render her subsequent condition more miserable than it was before. In this connection, let us bear in mind the well known maxim, "If we cannot cure, at least, do no harm."

Shortening of the round ligaments was required 27 times. Most cases of retro-displacement suffer also from relaxation of the pelvic floor, which must receive attention at the same time. Sometimes the cervix is so far forward that shortening of the utero-sacral ligaments is quite an advantage, beause it is much easier to maintain the fundus forward if the cervix is at the same time drawn backward. There are many ways of **Shortening the Round Ligaments,** as many as the human mind can conceive. Some shorten them along their normal course by a process of folding or drawing them out where they pass through the abdominal wall or by drawing them through an artificial opening in the ant. abd. wall. They have been folded and sutured to both the anterior and posterior surfaces of the fundus, in the latter case passing over or under the fallopian tubes.

The method which I practice is draw-

ing the ligament under the inner end of the fallopian tube and suturing it to the utero-ovarian ligament at its junction with the uterus, using linen thread for this purpose. The utero-ovarian ligament is a strong fibro-muscular cord and furnishes a much better attachment than suturing to the uterine musculature on the posterior surface of the fundus. I am surprised not to find in the literature that the utero-ovarian ligaments have been taken advantage of in this operation, but, since we hear it said that there is nothing new under the sun, I suppose I may some day in a remote corner run across a description of what I now call my method.

There are three cases of Caesarean section.

Until the last few years the indications for this operation have been commonly enumerated as pelvic deformity; tumors of the ovary, cervix, and vaginal tissues, or the pelvic bones presenting insurmountable obstruction to the delivery of the fetus in the natural way.

Recently this operation is becoming the procedure of election in cases of puerperal eclampsia, in which the woman is at or near term and, where the condition of the cervix or presenting part is contra-indicative of a speedy delivery.

In arriving at a conclusion as to what constitutes a contra-indication to a speedy delivery, a due regard for the life of both mother and child must be had and a just consideration of the disadvantages and dangers attending each proposed procedure must be given. It should be remembered that a maternal mortality of from two to four per cent. is given in high forceps delivery, while the infant mortality is from 25 to 30 per cent. where this form of instrumentation is practiced for any indication, and that the maternal mortality in eclampsia without operative interference is from twenty-five to forty per cent. and the fetal death rate from fifty to eighty per cent. On the other hand, Caesarean section carries a maternal mortality of from 1 to 2 per cent. with an infant mortality of nil in deformity cases.

In a series of ten cases of Caesarean section for eclampsia I have had no deaths from the operation. All the mothers are now living but one, this one having died on the 23rd day after the Caesarean from pneumonia following another operation for a condition entirely independent of the Caesarean Section. Three of the infants did not live, one of them being a six months fetus and dead before operation. The other two were seven months babies and lived a few hours only.

All of these patients except one were in a typical eclamptic condition, having a history of severe headache, rapid pulse, increased blood pressure, albumenuria, disturbances of vision, and convulsive seizures. The one excepted gave a history of a previous serious difficulty in labor with death of the child and came in the hospital with an obstinate and severe frontal headache, increased blood pressure, diminished urinary output, and other premonitory signs of impending eclamptic seizure.

Conclusions:—In eclampsia at or near term, prior to the commencement of labor, or when the os, cervix, or presenting part indicates that a speedy delivery will be impossible except attended by considerable trauma to both mother and child, Caesarean section is the procedure of choice and the method par excellence of handling this condition.

Of course, my remarks refer only to the emptying of the uterus. This does not mean that it should displace medical treatment. It only makes other measures more effectual.

I have encountered in this series only one **gunshot wound** requiring operation. The history of this case follows. Male, age 20. Accidental gunshot wound of the abdomen. Patient was injured about 4 P. M., after having plowed all day in dirty clothing. The wound was located in the hypogastric region, low down on the right side, the mass of the 12 gauge load completely severing the right spermatic cord and ranging upward and backward. Numerous single shot wounds distributed over the right inguinal region.

Six hours after injury the patient was in a condition of severe shock with small, low tension, thready pulse, 96 to the minute, abdominal muscles rigid, nausea and vomiting, costal respiration marked, which, incidentally, is said to be an almost infallible sign of intraperitoneal injury. After the usual shock-combating measures were instituted, celiotomy was made, entering the abdomen through the right rectus incision. Passing through the peritoneum, a large quantity of free sanguinous fluid was encountered with some blood clots. Careful examination confined the major portion of the injury to the ileum for a length of about ten feet, terminating two or three feet proximal to the ileocecal junction, there being innumerable perforations of the intestine and in two places, owing to tangential contact in the long axis of the gut, the shot had laid open the intestine for a considerable distance, while in other places, due to a slight angulation of contact, the gut had been macerated to such an extent as to have practically severed it.

By making three or four resections it would have been possible to save 2 or 3 feet of the gut which was sacrificed on account of the patient's condition at the time, but this was more than counterbalanced by the great advantage to be derived from an early termination of the operation and the lessened operative shock, besides avoiding the greater subsequent danger of kinks and adhesions likely to arise from several enterectomies in such close proximity. I, therefore, resected all of the severely injured intestines, including two sound segments of about one foot each, the amount removed being seven feet nine inches. The remaining few single shot perforations were closed by purse string sutures of linen.

Convalescence was uneventful and the patient is enjoying usual health, there being no diarrhoea or other intestinal disturbances.

The right spermatic cord was so badly damaged that I also removed the corresponding testicle.

This paper is intended to put before you the class of cases that comes before the surgeon in his everyday work, to show you some of the things which we have to be prepared to meet and also to emphasize the importance of early recognition of the surgical affections which the physician may expect to come upon in his practice and for which he also must be prepared to make diagnosis.

In most of the surgery, the diagnosis must first be made by the practitioner and it is just as essential that he be ready to meet these conditions and to differentiate between them, as it is that the surgeon know how to do his part of the work. The work of the physician and surgeon are very closely allied, each needs the other, each is dependent on the other, and each is just as important as the other in the discharge of his respective duty .

IGNORANCE, SUPERSTITION, QUACKERY.

By R. B. Furman, M. D., Sumter, S. C.

Ladies and Gentlemen of the Sumter County Medical Association:

IN choosing the above caption for my paper this evening, although I may not present anything specially new nor instructive, I hope to at least amuse you and draw forth some of your individual stores of experience. Quackery with its concomitant of patent medicines is certainly not one of the least evils we have to fight and this evil is not limited to the lowly and ignorant but finds its way in some form or other into the homes of the well to do and presumably intelligent. Two or three years ago I treated a case of Acute Nephritis. The man had uraemic poisoning with convulsions and came out of the attack with a persistent albuminuria. During the course of his illness he showed me a slip of paper sent him by one of the intelligent men of the community advising him to get Dr. ——— Kidney Cure and take it for the relief of his condition. I told him I didn't know what the wonderful medicine contained but since there was no medicine universally adapted to all the varieties and stages of Brights Disease, he might safely conclude it was a fake.

A prominent physician in Richmond, Va., was once consulted by a stout society lady, who wished her flesh reduced, not receiving the encouragement she expected, she wrote to an advertising specialist in New York. The man replied that he would send her treatment for $50 and guarantee to reduce her to sylph-like proportion in three months. She sent the money and in return received a large capsule, with directions to take at once. Her courage failed at the prospect and she carried it to her physician to ascertain what drug could be so potent in a single dose, the doctor opened the capsule and found the head of tape worm.

The quack finds a ready access to the people he most wishes to reach through the advertising columns of the $1.00 tri-weeklies, issued by many of the daily newspapers in the large cities and by way of the religious press. I think some of our religious papers are doing more harm in this way than they have ever done good. I sometimes amuse myself by counting over the advertisements in this class of paper and have actually found in several instances the advertisements of a quasi medical nature to exceed in number the total of all others combined. The reason of this is obvious. The man, and especially the woman of one or two papers who sees a nostrum advertisement in his or her dearly beloved church organ and perhaps enlarged in the reading notices, is apt to believe that the statements are little short of gospel, I mentioned this to an agent who solicited me for a subscription to a periodical of my denomination about two years ago and promised to send in my subscription as soon as the objectionable feature was removed. I have not heard from him since.

Then we have the hidden advertisements, which have been so common in a certain class of papers, when one thinks he is reading a news item until he comes across Jad Salts, Pinex, etc. etc.

The Quack bases his absurd assumption in his testimonials of his cures, which documents he can produce in abundance. These are notoriously unreliable. They are generally given by people cured of diseases they never had or by invalids in the final flush of hope.

I presume some of you recall the ac-

*Read before the Sumter County Medical Society, March, 1916.

count given by Dr. Cathell in the "Physician Himself" of the woman in Paris who bottled the dirty, muddy water of the river Seine and sold it as a panacea for most of the ills. At her death she had a trunk full of testimonials of cures and she had come to believe firmly in its efficiency herself.

The useless and often absurd practices of the self ordained midwife are notorious. Who of us on being called to a case of retained placenta does not find the cord tied to the woman's thigh to prevent it from going back up. And the ridiculous treatments resorted to by the more ignorant classes. Pulling the palate up by a lock of hair in the center of the scalp. Washing the head with urine for a bad cold and gargling the throat with the same. Putting breast milk in sore eyes. Eating fried rats for bed wetting. Swallowing flies to produce vomiting. This last is said to be very effectual. Some twenty years ago, one Willford Hall came out with a home treatment which was guaranteed if persisted in, to cure about 2247 of the 2400 diseases. The victim sent in $5 and a salesman's pledge not to divulge the wonderful secret. This consisted substantially in flushing the colon with enormous enemas of water. About that time I was attending a negro sick with typhoid fever. The man's landlord was a votary of said Hall and one day during my absence he went to the house with some assistants and pumped that darky chuck full of water. The man died in a short time with symptoms of perforation.

We are ourselves by no means exempt from being taken in. Two or three years ago while reading the Columbia State, I noted in glowing headlines where a doctor in a nearby town had been made an honorary member of the Academic Physico Chimique Italicum of Palermo and had their diploma conferred upon him. I had only a month or two before seen an expose of this concern in a medical journal. It was a fake and its only object was to obtain the money for the diploma.

My own fame seems to have penetrated to these gentlemen, as I was offered the chance, in consideration of my distinguished position in the profession of having various honors heaped upon me provided I would cough up the necessary fee.

I was not coughing just then.

The belief in witchcraft and the agency of occult forces has by no means died out. It is very common when a negro becomes ill in any unusual and to him inexplicable way to imagine himself tricked and even to be able to say who perpetrated the job. This state of mind of course sets up a vicious circle and the unhappy darky is liable to fall a victim to his own imaginings.

Sometime ago I attended a negro in Clarendon County with typhoid fever. About the time of the cessation of the fever post typhoid mania set in. The woman became quite wild, talking incessantly about a trip to heaven which she had just made. Some time after her recovery she came to my office and I noticed that all of her teeth were gone. She still owed me a balance which she requested me to carry over till next fall for she said "Dem people of mine most broke me up las cheer". She went on to say that they had decided that she was "tricked" and had got a doctor from the city of Sumter by the name of Robertson and that he had gone down and annointed her with vinegar and salts and some other ingredients and mixed a portion for her to take. This she refused to take and they tied her and forced it into her mouth. She held it there until they turned her loose and then spit it out. She said that it deadened her

mouth and loosened all her teeth so that she pulled some out with her fingers and had the balance extracted by a dentist. The root doctor pocketed his fee of $30 and left declaring that she would be well in nine days.

Once I treated the wife of a small tenant farmer, she having developed an obstinate hysteria. I think that man wanted me out nearly every night for a week to be present at his wife's demise. I didn't go every time though. Finally she recovered and meeting him one day I inquired about her health. She's well and hearty as ever," he replied, "and I can tell you what cured her." "What was it?" I asked. "Well, suh, ole Miss ——— told her to put a Bible under her pillow at night and she done it and she ain't never had no mo of them spells."

Some time after this he consulted me for relief of piles. I suggested the Bible treatment but he appeared skeptical about the efficacy of the Scriptures below the belt.

One Sunday night I was called to go in great haste to see a negro woman, who the messenger said had been taken speechless in church and carried to her home in a state of insensibility. On arriving I found the landscape full of horses and vehicles and the yard and home full of negroes. The woman was stretched in a bed stiff as a poker and every few minutes she would squall "Do Jesus" and jump up about a foot. The room was jammed with men and women, some singing, some exhorting and one fat "revrunt" was kneeling by a chair at the door praying and sweating fervently. I commanded silence but without avail. Then I got provoked and grabbed the fat preacher by the collar with both hands and yanked him loose from that chair and out of the door. This decided action produced instant calm and I announced that as a doctor I was supported by the strong arm of the law and that I would indict the last mother's son of them if that room wasn't cleared of men instantly. Then the door and windows of that shack belched buck niggers.

One elderly mamma who seemed to be a special high priestess of the occasion opined that the patient was permeated with some sort of Divine Essence though she didn't express it in exactly those words, and that it would be obviously sacriligious to throw such obstacles as low down common doctors medicine in the way of the salvation of a human soul. I had loaded up my hypodermic with four fingers of apomorphine and I informed the old lady that I had come there to treat somebody and hadn't the slightest objection to beginning on herself. She glanced at the instrument dubiously and subsided. I shot the load where it would do the most good and in due time the recipient of the Holy Ghost descended limply from her pedestal and threw up her religion.

THE PREPARATION OF A PATIENT FOR A SURGICAL OPERATION.

By F. L. Potts, M. D., Spartanburg, S. C.

THIS, gentlemen, is a very old subject but one which has undergone many radical changes in the past few years and changes to simplicity are being made daily. I have purposely omitted the terms of major and minor surgery since there is really nothing minor about the kind of surgery unless it be the operator himself. Sometime ago I heard a very prominent Southern surgeon say that the more minor the operator the more major the operation and vice versa. We have all seen the severest infection from the slightest abrasion or solution of conti-

*Read before the Spartanburg County Medical Society, Feb. 25, 1916.

nuity. The preparation of the patient is of course local and general. In all cases an adequate preparation of the patient is most necessary. There are certain surgical emergencies; catastrophies like the perforation of an ulcer, or the rupture of a tubal gestation, in which the urgency of affairs does not permit of any elaborate detail to be observed. Gunshot wounds would certainly come under this head. But whenever time and circumstances and opportunity render it possible, the preparation of the patient, both local and general should be most scrupulously observed. It is said by some that strict preparations are absurd, but there can be no question that it pays one in better results.

If possible the patient should be kept in bed the whole of the day preceding the operation. We have adopted the plan of giving no purgative but simply high bowel enema the evening before and next morning. The condition of the mouth receives close attention. Every patient should be given a new tooth brush and a bottle of antiseptic mouth wash, which should be used very often. It is astonishing to what degree of uncleanliness even the better class of people will allow their teeth to go. Patients with gastric ulcer and its complications seem to suffer especially with bad teeth, indeed it has been asserted by many that oral sepsis is the important factor in the causation of gastric ulcer. It is possible, as the excellent work of Dr. Harvey Cushing has shown, by careful attention to the condition of the mouth, and by the sterilization of all foods, to render the alimentary canal comparatively aseptic. Plates, cups and saucers should all be sterile and handled by surgically clean hands. The occurrence of parotitis and perhaps pneumonia in abdominal operations is largely due to infection from the mouth. The skin of the abdomen or parts needs and does receive by me very careful and very little preparation. My own method is shaving of the entire abdomen or other parts, wash thoroughly with soap and water, never use a brush, gauze being the better, a sterile cloth or a bichloride towel is bandaged over the abdomen or other parts which is not removed until on the table and asleep, when this is removed I wash the parts first with benzine, then with ether which dries rapidly, and a ten per cent. tincture of iodine is applied and re-applied every twenty minutes if the operation be a long one. The skin can be covered with tetra cloth held to the wound edge with specially designed forceps. If the skin of the patient should be very rough, scaly, chapped or cracked, its adequate preparation is almost impossible. In these cases or conditions the rubber dam introduced by Dr. J. B. Murphy will be found of the greatest service. It consists of a very strong, very adhesive material, which is stretched and then placed on the abdominal wall, to which it clings most closely, becoming in fact for the time an inseparable part of this wall. Through it the incision is made and the hand outside or any viscera escaping from the abdomen lies not upon the abdominal wall but upon this sterile rubber dam. As a general rule no more local preparations are necessary.

We will now consider a special class of patients for preparation. No matter what may be the advisability of casting off a bad habit, the fact remains that the habit has become fixed, the body has learned to tolerate it, and any change toward obtaining the ultimate and better condition involves a transitional and immediate worse state of affairs, because of shock and disturbance to the mechanism of animal economy. "You will be worse before you are better" is true as a fore-

cast about an attempt at reformation. Sudden withdrawal of alcohol from a steady drinker and the resultant delirium exemplifies the idea. A man should not contract a bad habit, but having contracted it, maintained it and fixed it, then his physician's dilema is, shall things be let alone and a minimum or no disturbance produced, or shall thoroughly honest, conscientious, and vigorous means be chosen, even if the patient loses his life?

A bad habit should never be attacked unless the assailant has plenty of time and able assistants, a violation of this rule is wooing failure. It falls to the lot of almost every physician, or he thinks it does, which amounts to the same thing, to prepare a patient for a surgical operation. He may not know how to do it and will usually follow his best judgment, thereby at once being led to cut off all alcohol, tobacco, opium or other drug which is habitually used, and to assume that the bad habit of constipation exists and demands brisk purgation. The purge is administered usually without any clinical history warranting its exhibition, probably without troubling to obtain any history at all, or if a careful history is taken, its findings might prove clearly by the physical excellence of the patient that infrequent defecation and constipation are not synonomous terms but contradictory conditions. In the aforesaid the physician's intentions are good or may be good, the operating surgeon may be skillful, but the patient may pass away so easily a few hours or days after the operation that attendants never do understand "why". Especially is it past understanding if on the same day and in the same operating room a more serious operation is successfully performed on some drug "fiend," who is loaded with alcohol, opium, other drugs, and feces, except as the last may be removed by an enema. The reason for failure in one case and surprising recovery in the other may be summed up by the attendants about as follows; man number one died because he had every care; man number two recovered because he was no good to anybody.

When a surgeon of any experience prepares a patient for a serious operation, all habits, especially bad habits, are treated with the tenderest neglect, if not actually fostered, until the emergency is passed. Fresh air, diet and exercise, he may even order an enema to cleanse the colon, but he knows that he cannot break up a bad habit in a short time without breaking up the patient's resistance and endurance. and he is well aware that the ileum requires some solid contents if it is to obtain its habitual stimulus, without which it is apt to quit work and dilate from exhaustion, to which purgation has contributed.

It is true that the pre-operative purge is a routine measure in many hospitals, but a glimpse at the literature will show the handwriting on the wall, and the word written is "tekel." The advantages obtained by its omission are so clearly evident in the post-operative comforts and progress of the patients that some surgeons are omitting it just to save themselves anxiety. An experience based on counting vomitings in eighteen cases leads me to think that a purge given seventy-two hours before an operation will give about two post-anesthetic vomitings, given forty-eight hours should average three, given twenty-four hours, four, given twelve hours average four the first day and two the second; while an enema averages two vomitings. Quantity and character of vomit and dejecta are not considered, but solely the number. The two vomitings after enema were but untinted saliva. The anesthetic used was ether in all.

It does seem as if there is a time when bad habits should be left alone, and that time is when an operation is impending. I have failed with the interference plan and have been on the wrong track. As for purgation, I was taught to use it and have it used ad nauseam so far as the patients were concerned.

Just here I would like to report the two following cases. Case number one, Mrs. W., aged 38, weight 168, operation: removal of two cystic ovaries and a chronic appendix. Patient did fairly well for two days, but never "fine." On the morning of the third day I was very much worried about her condition for two reasons: the first, I believed she was going to die, the second, I did not know why. About three hours after leaving patient, the nurse located me and imparted the information that Mrs. W. had told her she was in the habit of taking about four grains of morphine daily. I ordered her to give the patient half a grain hypodermically at once, which she did, with transitory improvement. However, she lapsed and died that night. Why?

Case number two: Mrs. P., age 48, weight eighty-nine, both ovaries and appendix removed and gastric ptosis present, which we at the time thought due to the absence of the balloon-like effect of the viscera below, which absence was due to constant purgation with a resultant lack of gas formation. Results splendid in a way. She had for three days the most distressing tympany I have ever seen, and had it not been for the use of pituitrin, she, too, would have died. During convalescence she told me that her normal condition was three stools per week, but since she had been under treatment for gastric ulcer for the preceding six years, she was purged almost daily.

Both cases were purged and morphine unwittingly taken from case number one.

Dr. Stringberg of Sweden, who seemingly was several years ahead of his time, was so wrought up over the condition of affairs both in and out of the profession, conditions which he considered sham and make-believe, the use of so much paraphernalia and the blustering which preceded everything, even a surgical operation, that all this led the doctor to his attack on culture, on the state, on punishment, on the profession, on the whole condition of modern society, not even sparing the faculties and professors.

This caused him to be the most hated man in all Sweden. He was accused of being the most immoral man in the country and rumor gave him wives and concubines and illegitimate children by the score, all of this due of course to the stand he took regarding certain fundamental principles, changing from the old to the new. He finally classified the majority of the teachers as puppets of their own imagination. Today, now that he is dead, Sweden hails him as the national conscience, and as the very prophet and cymbal of this modern age and progress. The late Dr. Joseph Price of Philadelphia was in a way so treated by the profession in the United States since he was just about twenty years ahead of his time.

CARE AND TREATMENT OF THE PATIENTS AT THE STATE HOSPITAL FOR THE INSANE, COLUMBIA, S. C.

By C. F. Williams, M. D., Superintendent.

A LARGE portion of the general public and even a number of the medical profession have an erroneous conception of the routine and methods of care and treatment in a modern hospital for the insane. The popular idea of hospitals for the insane is "The Asylum," a place for the segregation of the mentally affected, rather than a place for scientific treatment in the hope of restoring to normal the alienated.

It is the purpose of the writer to outline the methods in vogue at the State Hospital at Columbia as typical of the modern hospital for the insane.

In the first place the matter of accommodations has to be considered. These should be so arranged as to properly feed, heat, bathe and otherwise care for the patients in as economical a manner as is consistent with good treatment. These features, together with the modern idea of well lighted, well ventilated, sanitary and hygenic wards, having adequate toilet facilities, and the system of sleeping in dormitories and spending the day in separate quarters, or day rooms, have been combined in the remodeling that has been completed and also in that which is now going on at the Hospital.

In planning accommodations, facilities for proper classification have also to be considered. Just what is meant by classification must be explained. Insanity is manifold in its manifestations, and the individual case is apt to pass through a cycle of changes so that it would be impractical to house or classify permanently strictly according to the mental disorder. The endeavor is rather, therefore, to keep those patients together whose characteristics (it may be only temporarily so) are most nearly alike.

From experience it has been determined that for the average hospital accommodations should be provided for the following classes of patients:

Chronic, quiet and clean	27 per cent.
Infirm, bed cases	20 " "
Industrial	17 " "
Disturbed, restless, destructive noisy	17 " "
Reception cases	5 " "
Tuberculous	5 " "
Epileptics	5 " "
Hospital, or physically sick	2 " "
Convalescent	2 " "

In remodeling the plant at Columbia, the ratio stated above has been taken as a standard, and a unit has been devised elastic enough to allow for the accommodation of practically all the classes of patients just listed.

With the foregoing cursory outline of the care of patients, the matter of actual treatment will now be considered. To do this in a simple way a new case will be taken and his admission followed. Upon arrival at the Hospital he is interviewed briefly by the physician who sees the relatives or friends that accompany him in order to get an anamnesis. He is then sent to the Receiving ward where he is bathed, weighed and put to bed; temperature, pulse and respiration are taken. At this time the physician also notes any burns, bruises, or injuries of any kind, or anything markedly abnormal. The patient is kept in bed for a week, or longer if necessary. During this time complete mental and physical examinations are made and laboratory investigations conducted if it is deemed necessary. The facts obtained from

Read before the South Carolina Medical Association, Charleston, S. C., April 19, 1916.

the examinations are typewritten, and, with additional notes of subsequent observations, becomes a permanent record of the patient. At the time the history is typewritten, carbon copies are made and forwarded to each of the physicians who examined the patient before his commitment. The patient is now ready to be presented at Staff Meeting. These meetings are held each morning from eight-thirty to ten-thirty, Sundays excepted, and are presided over by the Medical Director,—all the members of the Staff attending. The history is now read and all data are submitted. The patient is then presented in person, and a second examination conducted, at which time a provisional diagnosis is reached, if possible, and treatment outlined. At this time, also, all other matters of interest and importance to the welfare of the patient are brought up. He is now transferred to the ward most suited to his condition and observation continued twice daily when the physician is on his rounds. The progress of the case and anything else of interest are noted on the record from time to time.

His fitness to leave the Hospital is considered at Staff Meetings, and, so far as possible, no patient is paroled or discharged without consideration by several members of the Staff, thus protecting not only the patient's interest, but those of the public at large, by preventing the release of dangerous or undesirable persons.

The treatment is physical as well as mental, the old adage that "a healthy body is the temple of a sound mind" being always remembered. It is, therefore, the constant endeavor to locate and relieve all physical defects and to put the body in the best state of physical health possible. The treatment in this respect is the same as that in any well regulated general hospital where the importance of proper nursing and diet is stressed, and differs in no way from the methods with which you are already familiar.

Excitement or agitation is combated by Hydro-therapy in the form of hot or cold packs, or continuous baths; no mechanical restraint is used, and only in extreme cases are sedative drugs resorted to.

One of the most important therapeutic agencies in a hospital for the insane is occupation. Not only does some suitable form of occupation retard deterioration in many patients, but it frequently acts as an important factor in their recovery. Recognizing this principle it has been the constant endeavor to devise a more varied means of occupation and to increase the number interested. Beginning this work last June in a modest way it has grown until at the present time fifty per cent. of our patients are engaged in some form of occupation with most encouraging and beneficial results.

Recreation and certain forms of entertainment are also recognized as important adjuncts in the care and treatment of the mentally deranged. Not only does recreation frequently stimulate and usher in a return of a normal state in recoverable cases, but it is one of the efficient means of retarding deterioration in the large permanent population.

Among the forms of recreations and entertainments provided are music, weekly dances, and moving-picture shows; basket ball, croquet, baseball, drills and picnic parties. A band and an orchestra have been organized among the patients and attendants, and weekly concerts will be given. It is planned to install in the near future, pool tables, bowling alleys and an open air gymnasium.

Another important feature in the treatment of the mentally sick is the

attitude of the physician and nurse toward the individual patient. Their deportment at all times must be such as to command respect. They must be firm, yet kind; cheerful and sympathetic. No promises should ever be made if it is not the intention that they be fulfilled. Many troublesome situations and conflicts can often be adjusted and the path made easier by sympathetic consideration and a word of cheer and encouragement.

It is fully realized that one of the most essential requirements in every hospital where the endeavor is to render the greatest service, and carry on scientific work, is a well equipped and properly conducted laboratory.

This feature has been enlarged and is now in charge of a pathologist who devote his entire time to the work. You will be interested and gratified to know that arrangements have been made with the Medical College of South Carolina whereby the Professor of Pathology and Research Medicine has been added to the Staff as Consulting Pathologist and that research work has already been begun.

In conclusion, and to briefly summarize, it may be said that the aim in the care and treatment of the patients at the State Hospital for the Insane is: to cure the curable; to build up and prevent deterioration in those who have passed beyond this stage and to make them comfortable and happy; to discover by research and scientific investigations better means of bringing these things about; and to leave behind accurate and trustworthy records in the hope that they may be of some service in working out plans for preventing this ever increasing malady which is of such vital importance to every citizen of the state.

SOCIETY REPORTS

MARLBORO COUNTY.

The Marlboro County Medical Society met in Bennettsville on February 3rd. Dr. Reese, our president made a plea for more thorough examinations, and he also said that we could help each other if we reported our failures as well as our successes. Dr. Mahoney reported an interesting case of Whooping Cough.

Dr. May reported a case of Pellagra, which he cured by injecting the patient with her own serum. The doctor did not claim this method of treatment to be original.

Dr. J. A. Hamer was elected delegate to the South Carolina Medical Association and Dr. W. M. Reedy was elected alternate delegate.

Dr. T. H. Smith, who has recently moved to Bennettsville, was present and was extended the privilege of the floor.

The Society decided to take up for discussion, at its meeting in April, The Intestinal Diseases of Babies.

Drs. Hamer, May and Strauss were appointed to read papers at this meeting.

There has been a decided improvement in our Society, both in attendance and in scientific discussions.

D. D. Strauss,
Secretary.

CHEROKEE COUNTY.

The Cherokee County Medical Society met on March 30th and elected officers for 1916 as follows:

President, Dr. J. T. Darwin, Gaffney, S. C.

Vice-President,

Sec. & Treas., Dr. A. L. Little, Wilkinsville, S. C.

Delegates, R. T. Ferguson, Gaffney, S. C.

Alternate, Dr. A. L. Little, Wilkinsville, S. C.

Meeting of the County Society is called off in April on account of the State Meeting; but we will hold a regular meeting the first Tuesday in May at Blacksburg, S. C., at 3 P. M. Dr. J. M. Caldwell, Blacksburg, S. C., will prepare a paper for the meeting.

A. L. Little,
Secretary.

WILLIAMSBURG COUNTY.

The Williamsburg County Medical Association met on Thursday, March 23rd, 1916, at Hemingway, S. C., at the office of Dr. E. A. Simmons.

The election of officers was immediately taken up and the following officers were elected to serve for 1916.

President—Dr. A. G. Eaddy, Johnsonville, S. C.

Vice-President—Dr. F. S. Hemingway, Kingstree, S. C.

Secretary & Treasurer—Dr. E. A. Simmons, Hemingway, S. C.

Censor, 3 years—Dr. E. T. Kelly, Kingstree, S. C.

Delegate State Med. Association, 2 years—Dr. C. D. Jacobs, Kingstree.

Alternate—B. M. Montgomery, Hemingway, S. C.

A resolution was passed by the society, thanking the retiring president Dr. W. V. Brockington of Kingstree, for the interest he has taken in the Society for the past two years and for the very courteous manner in which he has presided over its meetings.

It was decided to hold the next regular meeting in Kingstree on Thursday, April the 13th, at six o'clock in the evening, at which time a very interesting and instructive program will be carried out, and after the business session a banquet will be served by the society. It is earnestly requested that every physician in the county attend this meeting.

E. A. Simmons,
Secretary.

MARLBORO.

Tribute to Dr. J. A. Faison.

Dr. J. A. Faison was born April 15th, 1850. His early education was received from private tutors. He attended Trinity College and graduated from the Jefferson Medical College. He practiced medicine at Mt. Olive, N. C., was Superintendent of the Insane Asylum at Raleigh, and came to Bennettsville nineteen years ago from Raleigh. He was a member of the Tri-State Medical Association, Southern Association of Railway Surgeons and a fellow of The American Medical Association. He died at Bennettsville, S. C., Dec. 21st, 1915.

Whereas: We the members of the Marlboro County Medical Society, desire to place on record our testimony of love and appreciation in which Dr. Faison was held by us, and

Whereas: We also wish to testify to his standing and worth in our community; therefore, be it resolved:

First: That in his death we have lost one of our most zealous and devoted members and our town and community, one of its truest and most loyal citizens.

Second: That Dr. Faison exemplified in his daily life all those principles that represent the best in our profession; al-

ways looking to the best interest and welfare of his patients; never considering himself or his own comfort when he could do anything to relieve the sick and suffering. As a citizen he was always active and alert to everything looking to the advancement of his town and community; never shirking or evading any obligation or duty devolving upon him; never putting off anything for tomorrow that could be done today; always putting forth his best efforts in anything he would undertake.

Third: That a page in our minute book be inscribed to his memory; that a copy of these resolutions, suitably engraved, be sent to the family; that they be published in the Pee Dee Advocate, the Journal of the South Carolina Medical Association and the Journal of the Tri-State Medical Association

Signed:
C. R. May,
J. F. Kinney,
D. D. Strauss,
Committee.

SPARTANBURG COUNTY.

The Spartanburg County Medical Society met on March 31st, a large number of members being present

An interesting case of rupture of the uterus was reported by Dr. Kirkpatrick.

Dr. A. S. Cudd read a paper on The Stomach, which was very generally discussed and Dr. Martin Crook read a paper on Refractive Errors, which he illustrated by charts. The advisability and feasibility of having a large general hospital for Spartanburg was discussed, Dr. Black leading the discussion.

A Committee composed of Drs. Black, Cudd and Fike was appointed to interview the business people of Spartanburg and find out if the time is now ripe for making plans for building this hospital.

The Delegates to the State Convention were instructed to invite the South Carolina Medical Association to meet in Spartanburg in 1917.

L. Rosa H. Gantt,
Secretary.

MARION COUNTY.

The Marion County Medical Association met in Mullins on Wednesday of last week, and was attended by practically all the members.

Dr. Asbury Coward, of the State Board of Health, was present as the guest of honor of the association and made an interesting talk on the relation of the Board of Health to the Doctors and public generally throughout the State. Dr. Coward's most interesting talk was enjoyed by every member of the association.

Dr. McLeod, of Florence, was also invited, but owing to pressing business engagements he was unable to attend, much to the regret of those who had expected to have the pleasure of his presence at the meeting.

Dr. A. M. Brailsford, as a member of the State Board of Examiners, was asked to report the present status of the board, especially toward entrance requirements, osteopaths, etc. Dr. Brailsford's remarks were good and full of interesting facts. Many cases were reported and discussed by the members.

The election of delegates to the State Medical Association which meets in Charleston in April came up for action, and resulted in the selection of Dr. E. M. Dibble, of Marion a delegate, with Dr. Frank Martin of Mullins, as alternate,

There was a great deal of enthusiasm shown at the meeting. Reports of the officers showed that the association is in a healthy condition, and is to be stimu-

lated by more frequent meetings.

The meeting of the association was held at Sans Souci club house. On the arrival of the guests at the river, a sumptuous dinner had been prepared, and fish in abundance was served. The celebrated "Pee Dee Bream Stew" was the leading item on the bill of fare, which consisted of the following:

Pee Dee Brem Stew
Rice, Light Bread Crackers
Fried Bream
Trout Fish Roe Red Breast
Home Style Corn Bread
Bacon
Black Coffee, a la Pee Dee
Pickles Olives
Celery
Light Refreshments (1 per cent.)
Cigars

It was a fine dinner, and there was no doubt about it being enjoyed, especially as to the stew. Several of the parties, Dr. Coward, for instance, had never eaten a Pee Dee bream stew before, and he was loud in praise, and strong in appetite, of the delightful blending of fish and accompaniments, that went into the making of the dish that had its origin in Marion county.

After the business meeting was over, the doctors spent an hour or more in social conversation, enjoying the delightful scenes on the river and the balmy zephyr, laden with sweet scented pines of which the camp is surrounded.

The next meeting of the association will be held in Marion some time in April.

F. L. Martin, M. D.,
Secretary.

POISONOUS FLY PAPER.

A year ago, in discussing this subject editorially, we gave a partial report of the cases of arsenical poisoning of children from accidentally consuming the contents of fly destroying contrivances during the summer of 1914. It was gratifying to note the number of medical journals that reprinted our editorial or commented upon the subject. The discussion was evidently a timely one.

For the summer of 1915 we have been able to secure the reports of the following cases:

Month	No.	Fatal	Recovery Indicated	Recovery Doubtful
May	1	1		
June	2			2
July	5	2	2	1
August	14	5	8	1
Totals	22	8	10	4

These cases were reported by the daily press as occurring in the following states: Georgia, 1; Illinois, 6; Indiana, 2; Iowa, 2; Massachusetts, 2; Michigan, 2; Missouri, 1; Nebraska, 1; New York, 1; Oklahoma, 1; Ohio, 1; Pennsylvania, 2; a total of twenty-two cases. This report must necessarily be considered as very incomplete and but an indication of the possible extent of a wholly preventable danger.

We again point out the fact that the symptoms of arsenical poisoning are very similar to those of cholera infantum and that undoubtedly a number of the cases of cholera infantum that occurred were really cases of arsenical poisoning, and death if occurring, was attributed to the fact The cases reported were of children ranging in age from 1 to 6 years. These little patients are not old enough to tell what they have taken when questioned as to their illness and unless they are seen consuming the fly poison the actual cause of their sickness or death is overlooked and the fatality ascribed to cholera infantum or to some other similar causes

and the error in diagnosis goes undetected.

We repeat, arsenical fly destroying devices are dangerous and should be abolished. Health officials should become aroused to prevent further loss of life from their source.

Our Michigan Legislature, this last session, passed a law regulating the sale of poisonous fly papers. Similar enactments should be secured and enforced in every state in the Union.
—From the Journal of the Michigan State Medical Society.

IT PAYS THE MANUFACTURER TO MAINTAIN ETHICAL STANDARDS.

The notice of the removal of the Dextri-Maltose manufacturing plant from Jersey City to Evansville, Ind., published in one of our advertising pages, deserves more than passing attention. It furnishes evidence of the natural growth of a manufacturing enterprise which is now vacating its old factory with 18,000 square feet of floor space for a new location in the Central West and in a new plant with 300,000 square feet of floor space—sixteen times larger than the old one.

This removal from a comparatively small to a very large housing also affords striking proof that success awaits the manufacturer who produces something the physician really wants, and markets his products in accordance with the standards set up by doctors for the sale of products they use. The first commandment for the direction of the manufacturer under these standards is: "Thou shalt not offer to both physician and public, by advertising or otherwise, anything which requires medical skill to properly use."

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This firm deserves no especial commendation for the curse it has pursued, it being its duty to follow it. Reference to the sales of Dextri-Maltose is made simply to show that it is remunerative for manufacturers to treat the medical profession fairly.

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President South Carolina Medical Association, 1916.

The Journal OF THE South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.

Annual Subscription, $2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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EDITORIAL

President, C. B. Earle.

The members of the State Medical Association are always keenly interested in the lives and works of those they honor with the high office of President. It gives us great pleasure to present the following data:

Dr. Curran Bertram Earle was born July 27th, 1875 in Anderson county, South Carolina, graduated at Furman University with the degree of Bachelor of Arts in 1892; studied Medicine at the University of Maryland, graduating in 1896, taking the Tiffany Surgical prize. Served one year in the University Hospital, Baltimore, as Clinical Assistant, and for ten months was substitute Resident Physician at the Free-Lying Hospital, Baltimore. Commenced the practice of medicine in Greenville in 1896; was made a member of the American College of Surgeons in 1913.

Dr. Earle has been one of the most conscientious workers in the interest of the South Carolina Medical Association. He became a member in 1897, and we believe has missed only two meetings in the nineteen years. He has served the Association faithfully and well in numerous positions. In 1906 Dr. Earle became managing editor of the Journal, retiring in April, 1907. An editorial in the Journal of May, 1907, refers to his connection with the Journal as follows: "Dr. Earle's economy of business management and success in adding to the advertising patronage of the Journal have been especially remarkable."

As Councilor of the Fourth District Dr. Earle has rendered conspicuous service and as Chairman of Council his wisdom and long experience in Association affairs have been a safe guide. Dr. Earle has been blessed with good health, wonderful physical endurance, and his activities have been many sided. He has been one of the pioneer surgeons of the up-country, since his graduation. He was one of the early promotors of the Private Hospital in the State and has done much to bring the City of Greenville forward as a progressive medical and surgical center. Dr. Earle has found time to give close personal attention to Public Health duties, as a member of the Board of Health of the City of Greenville. He has likewise filled an important niche in the Life Insurance world, having been medical director of the Southeastern Life Insurance Company for many years. Dr. Earle has not only been a faithful attendant upon the meetings of his County, District and State Associations, but has frequently attended national and international medical meetings. He visited the European clinics in 1914. He has not been a large contributor to the literature though when has something worth while he does not hesitate to place the same before the profession.

The State Hospital for the Insane.

In the April issue appeared an excellent resume of the general management of the patients at the Hospital for the Insane by Dr. C. F. Williams, the superintendent. In this issue we present the special treatment of Pellagra Psychoses at the same institution by Dr. W. C. Sandy, Medical Director. The profession, as a rule does not appreciate the enormous strides made in recent years in the treatment of the insane. We commend both of these papers to our readers as being of more than ordinary interest at this time.

ORIGINAL ARTICLES

PSYCHIATRIC ASPECTS OF PELLAGRA.

By William C. Sandy, M. D.,
Medical Director, State Hospital for Insane,
Columbia, South Carolina.

PELLAGRA constitutes one of the most important and difficult features of South Carolina psychiatric work. Ever since Babcock first published, in 1907, the existence of pellagra at the State Hospital, the attention of the public has been directed each year by the report of the Hospital to this ever increasing problem. No one acquainted with the situation at the State Hospital will question the importance of a consideration of the psychiatric aspects of pellagra.

Within the limits of this paper, it will be impossible to discuss adequately the general clinical manifestations of pellagra. In taking up the study of pellagra from the point of view of the alienist, it is the purpose of the writer to direct the attention principally to the types of psychoses associated with pellagra as observed during the last half of the year nineteen hundred and fifteen at the State Hospital for the In-

Read before the South Carolina Medical Association, Charleston, S. C., April 20, 1916.

sane, and the pellagra statistics of that same period.

A glance at the Hospital statistics for that period reveals a number of rather striking facts. During the six months there were admitted six hundred and six patients, of whom one hundred and sixty or over twenty-six per cent. were pellagrins, that is had some actual clinical manifestation of the disease. Of these pellagrins, the largest number were white women, the others in reverse order of frequency being colored women, colored men and white men. During the six months, there were admitted twelve less white than colored patients but six more white pellagrins than colored. The greatest number were admitted in July, the least in October.

There appears to be a wider range of age limit of incidence among the males than among the females. The most frequent ages among the males were from twenty to seventy, among the females twenty to fifty. Of the males, over eighty-four per cent. of the whites and ninety-four per cent. of the negroes were admitted between the ages of twenty to seventy, while of the females, ninety per cent. of the whites and over seventy-eight per cent. of the negroes were admitted between the ages of twenty to fifty.

The large death rate of the Hospital has been a source of great concern to those connected with the management. This death rate has been, to a great extent, due to pellagra. Many of the cases reach the Hospital in a critical or moribund condition and die within a few days of their admission. Other patients, although not moribund, have had their vital forces so depleted as not to be able to react to treatment.

In a tabulation of the deaths for twelve months, it is seen that over sixty-one per cent. were from pellagra or, in detail, over fifty-two per cent. of the white males, over fifty-one per cent. of the white females, over fifty-three per cent. of the colored males and over eighty per cent. of the colored females. The greatest number for any one month died in June, the least in December. It was interesting to note that for the most part, according to the year's statistics, the white and colored females dying from pellagra were at their most productive period, the largest number being between twenty and forty, while the males, especially the colored, were at a more advanced age, the largest number being between fifty and sixty.

Over sixteen per cent of the pellagrins who died had been in the Hospital less than fifteen days, while over forty-six per cent. had been under Hospital care less than two months. When the chronic nature of pellagra is considered, it can readily be seen that a large proportion of the patients are admitted in such a serious condition that there is little if any hope that they will react favorably to the treatment.

Forty-nine cases, or over fourteen per cent. of the pellagrins dying during the year 1915 had been in the Hospital from one to five years. Twenty-one cases had been patients from five to fifteen years and one over fifteen years. It was impossible to prove that any one of these cases developed the pellagra in the Hospital. While in a few cases it was a question whether or not there had been a previous manifestation of pellagra, in most of the cases, however, there was an undoubted history or the patient had had attacks of pellagra in former years while in the Hospital. These so-called recurrences were not restricted to any particular part but were scattered over the Hospital. Many of these patients were of the praecox type—careless as to their habits, eating little unless urged, although provided with sufficient food and a varied diet.

Their faulty habits, coupled with insufficient eating and the general constitutional deterioration which all the former implies, seemed to have a real bearing on the return of the pellagra and the fatal outcome.

During the period in which the writer has been connected with the South Carolina State Hospital, a classification closely allied to the New York formulation has been adhered to. Since July 1, 1915, all patients admitted have been examined by accepted psychiatric methods, presented at staff meeting, discussed and diagnosed so far as possible in accordance with this classification. Owing to the fact, however, that pellagra frequently radically modifies or obscures what is apparently an otherwise common clinical picture, it has been deemed advisable for statistical purposes to separate the psychoses associated with pellagra from those of other etiology.

At the very onset, it must be acknowledged that frequently, if not always, the clinical manifestations of a physchosis are the peculiar and characteristic reactions of each individual affected by the etiological factor. That is to say, given the etiology, the clinical symptoms will depend largely upon the type of individual affected and will vary accordingly. So it follows that the exact type of psychosis does not always bear a specific relation to the etiological factor but rather may be an exaggeration of a more or less common mood swing, natural disposition or constitutional make-up. There may result in individuals subject to abnormal mood fluctuations a manic depressive-like reaction, while the quiet, reserved, suspicious, seclusive persons with a shut-in-personality, often become the victims of a dementia-praecox-like reaction. It will also be seen later in this discussion that pellagra is often associated with certain organic and functional conditions, the exact significance or relationship of which it is difficult to determine. On the other hand, certain conditions will be described, as for example "infective exhaustive psychoses" and "symptomatic depressions," in which it seems that pellagra has a more direct bearing as a causal factor.

Bearing this in mind and remembering that the cause and mode of action of pellagra are still largely a matter for investigation, a discussion of the types of psychoses will be entered upon. Much of the following discussion is similar to that contained in a paper by the writer presented at the meeting of the National Association for the Study of Pellagra in 1915, but the present paper is based upon the statistics of a period twice as long.

One of the most common psychoses associated with pellagra, according to the South Carolina statistics occurring in thirty-five per cent. of the cases, is the infective-exhaustive psychosis. Ths attention must be called to the fact that this does not mean that the infection theory as to the etiology of pellagra is necessarily favored. The term "infective-exhaustive" is simply applied to psychoses which are analogous to or symptomatically resemble cert- infectious conditions. The so-called "typhoid state" may well describe the clinical appearance of many such cases of pellagra. The infective-exhaustive psychosis is most often characterized by more or less marked delirium, being accompanied by some confusion and disorientation, there frequently being also hallucinations accompanied by more or less agitation and restlessness. Physically, besides well marked symptoms of pellagra, there are present more or less severe evidences of exhaustion, loss of weight, emaciation, fever, sordes, anorexia and typhoid facies. In the milder forms of these "delirious

pictures," as Singer calls them in his contribution to the report of the Thompson-McFadden Pellagra Commission, and as he has pointed out, "the periods of clouding (of consciousness) may be quite brief and episodic. In such cases, in the intervals when consciousness is practically clear, the general attitude is one of symptomatic depression." Infective-exhaustive cases commonly reach the Hospital in a critical or moribund condition and the prognosis is frequently bad. A number of the less severe cases, however, recover after several weeks' treatment, a clearing of the mental symptoms being synchronous with improvement physically. The development of marked nervous symptoms of the type of central neuritis or cerebral irritation such as drawing back of the head, jactitation and tremors of the hands usually means an unfavorable termination. As already stated, pellagra seems to bear an intimate relationship to the infective-exhaustive psychosis as an etiological factor.

According to the present series of cases, the straight manic-depressive group is not so frequently represented among pellagrins, occurring in over eleven per cent. of cases. While the ordinary types, namely, the manic, the depressed and the mixed phases, may be seen, it is a noteworthy fact that the manic phase in pellagrins is less often seen than the depressed. It is true that manic features are frequently seen in the infective-exhaustive psychosis and are recognized by such symptoms as flight of ideas, exhilaration, distractibility and psychomotor unrest. In the infective-exhaustive cases, however, such features are temporary and are accompanied by more or less confusion and delirium. On the other hand, the depressed phase is rather frequently met with and is characterized by such symptoms as depression, retardation of speech and action and dearth of ideas. In these cases, pellagra seems to be an exciting etiologic factor, perhaps associated with other causes, bringing on an exaggeration, so to speak, of a normal tendency in the individual to be too sanguine or too depressed.

While ordinarily in the manic-depressive group the prognosis is considered one of the best of all psychoses for recovery from the current attack, with a strong probability, however, of future attacks, when associated with pellagra, the prognosis becomes problematical. Patients often fail rapidly, develop symptoms of the infective-exhaustive psychosis and central neuritis, with a fatal outcome.

Related to the depressed form of the manic-depressive psychosis, but being more a border-line condition, are the so-called symptomatic depressions. There were five such cases or three per cent. of the total. It has been the experience that certain chronic diseases such as heart disease or malignant disease, are often accompanied by a depression which must be considered as symptomatic of the disease. The depression is not so intense as one expects in manic-depressive cases and lacks many if not all the classical symptoms. Besides there is a marked physical basis for sadness and worry, and having more or less insight into the significance of his trouble, the patient is depressed over the outlook for the future and his present situation. Such cases may be termed symptomatic depressions. It is often a question as to whether they should be regarded as insane and doubtless many such cases do not reach a hospital for the insane.

Dementia Praecox was the mental diagnosis in over twelve per cent. of cases. Dementia Pracox and allied conditions associated with pellagra have been found to develop in individuals with peculiar personalities, people who

are seclusive, unsocial, suspicious and the like. Many such cases are characterized by delusions of persecution and ideas of reference, frequently accompanied by hallucinations of various kinds. A number of cases are from time to time placed in the so-called group allied to dementia praecox, the term "allied to' being used because of the presence of some atypical feature such as the onset of the psychosis apparently being acute or late in life. As usual, the prognosis for recovery in the dementia praecox cases from a mental standpoint appears to be uniformly bad, although cases do improve sufficiently to leave the Hospital. The pellagra element often seems to be incidental or at times it appears to be an exciting cause, aggravating what otherwise might be a latent condition.

Several cases have been observed in which appeared the characteristic clinical symptoms of general paralysis of the insane. The onset occurring around middle life, such physical signs as absent or sluggish pupillary reflex to light, speech and writing defects, swaying in Romberg position, altered deep reflexes, together with disorientation, memory defects, and other evidence of deterioration, all serve to make the picture one of paresis. The laboratory findings, always so important as diagnosis aids and confirmatory evidence in general paralysis, are entirely absent, the Wasserman of the blood and spinal fluid being negative and there being no pleocytosis of the spinal fluid. Such cases commonly die in the end stages of an infective-exhaustive condition with marked symptoms of central neuritis. This type of case has been called "pseudo-paretic" but probably should be included in the infective-exhaustive group. Paresis might, of course, be associated with pellagra.

Several cases of senile psychosis, confusion and simple deterioration, what is commonly designated senile dementia, were observed, which had quite marked physical signs of pellagra. These comprised ten per cent. of the cases under consideration. Several of these responded readily to treatment so far as the pellagra was concerned, the symptoms disappearing, leaving the senile condition. It was difficult to say what relation, if any, there was between the phychosis and the pellagra, the latter perhaps aggravating a condition which may have been largely if not entirely due to senility.

Twenty-three of the series of one hundred and sixty cases or fourteen per cent. were left unclassified, it being impossible to arrive at a satisfactory diagnosis, owing either to the lack of a good anamnesis or to the presence of unusual or atypical symptoms. Some of theses cases seemed to represent the "slowed down or simple deteriorated" type spoken of by some writers, others resembled more a neurasthenic condition, still others general paralysis. One case, a white woman aged thirty-five, with marked pellagrous eruption on hands, face and feet, had a partial left hemiplegia upon admission which almost disappeared after two and a half months' residence, when she was paroled. The Wasserman blood serum reaction was negative. Mentally she was clear, but emotional, crying easily and being rather querulous and complaining.

Of the remaining number, three were epileptic imbeciles or idiots, three cases of constitutional inferiority with episodes of some kind, and three were not insane. In the month preceding those in which the cases under consideration were admitted, a case of hysteria and also one of chorea associated with pellagra were under treatment. The latter was so severe that she died

the day after admission to the Hospital.

In the matter of treatment, whether or not faulty diet is the basis for the development of pellagra, it has long been recognized that a generous, well balanced diet will materially aid in the recovery of the pellagrin or at least in the disappearance of the active symptoms. Bearing this in mind, the treatment has been largely dietetic, and the importance of a diet consisting of meat every day, milk, eggs and green vegetables is emphasized. Coupled with the proper diet, the necessity of conserving the bodily powers of resistance by rest in bed must be remembered. Aside from diet, rest in bed and proper nursing, the treatment is comparatively unimportant. Symptomatically considered, tonics, intestinal antiseptics and astringents, external applications for the eruption, and so forth, are indicated from time to time. In combating restlessness and delirium, cold sponge baths or cold and tepid packs are of great assistance. In any event, treatment should be instituted earlier than it has been in the average case which reaches the hospital and should be continued faithfully.

In conclusion, in the series of one hundred and sixty cases, the infective-exhaustive psychosis was the most frequently appearing, occurring in thirty-five per cent. The prognosis is often grave, especially when symptoms of cerebral irritation or central neuritis develop.

The manic-depressive psychosis was seen in over eleven per cent., the depressed type being more common than the manic.

In this series, the senile psychoses appeared in ten per cent., dementia praecox or allied conditions in over twelve per cent., and over fourteen per cent. were left unclassified. It is often difficult to determine the relation between pellagra and the psychoses.

Pseudo-paretic conditions occur, to be differentiated from general paralysis by the laboratory findings in respect to the blood and spinal fluid. These should probably be placed in the infective-exhaustive group.

It is important to realize that the presence of pellagra in any case is apt to modify not only the course and clinical picture, but to alter seriously the prognosis. Hence the importance for constant prognostic conservatism.

Rest in bed with careful nursing and a proper well balanced diet appear to be the essential features of the treatment. Treatment should be instituted early and continued faithfully.

ONE YEAR'S EXPERIENCE WITH THE MODEL VITAL STATISTICS LAW IN SOUTH CAROLINA.

By James A. Hayne, Secretary and State Health Officer, Columbia, S. C.

Mr. President and Gentlemen of the South Carolina Med. Assn.:

THE very first thought of the State Board of Health when organized in 1879, was to have enacted by the General Assembly of South Carolina an Act requiring the registration of births and deaths in South Carolina, but this Act was not passed until March, 1914, thirty-five years later. It is a proud moment for me, as the executive officer of the State Board of Health, to be able to read this paper, giving you for the first time in the history of the State the vital statistics for one year.

The original Bill signed by Governor Cole L. Blease, September, 1914, was drafted by Dr. Cressy L. Wilbur, who

Read before the South Carolina Medical Association, Charleston, S. C., April 19, 1916.

was then Chief Statistician of the Bureau of Census of the U. S. Government. Dr. Wilbur is now State Registrar of New York.

The Act reads as follows:

THE LAW FOR THE REGISTRATION OF BIRTHS AND DEATHS IN SOUTH CAROLINA.

An act to Provide for the Registration of all Births and Deaths in the State of South Carolina.

(Passed by the General Assembly, March 1914).

(Signed by the Governor, September, 1, 1914).

Section 1. Be it enacted by the General Assembly of the State of South Carolina, that the State Board of Health shall establish a Bureau of Vital Statistics, and provide an adequate system for the registration of births and deaths, by formulating, promulgating and enforcing rules and regulations prescribing the method and form of making such registration.

Section 2. That the Secretary of the State Board of Health shall be the State Registrar of Vital Statistics, and it shall be his duty to carry into effect the rules, regulations and orders of the State Board of Health. The Board shall provide suitable apartments, properly equipped with fire proof vaults and filing cases, for the permanent preservation of all official records.

Section 3. That for the purpose of the Act, the State Registrar shall divide the State into Registration Districts, defining and designating the boundaries thereof, and appointing local Registrars in each district.

Section 4. That each local Registrar shall be paid the sum of twenty-five cents for each birth certificate and each death certificate properly and completely made out and registered with him, correctly recorded and properly returned by him to the State Registrar, as required by the rules and regulations. And in case no births or no deaths were registered during any month, the local Registrar shall be entitled to be paid the sum of twenty-five cents for each report to that effect, but only if promptly made in accordance with the rules and regulations. All accounts payable to a Registrar under the provisions of this Section shall be paid by the Treasurer of the County in which the registration district is located, upon certification by the State Registrar. And the State Registrar shall annually certify to the Treasurers of the several Counties the number of births and deaths properly registered, with the names of the local registrars, and the amount due each at the rates fixed herein.

Section 5. That the State Registrar shall, upon request, furnish any applicant a certified copy of the record of any birth or death registered under the provisions of this Act, for the making and certification of which he shall be entitled to a fee of fifty cents, to be paid by the applicant. And any such copy of the record of a birth or death, when properly certified by the State Registrar to be a true copy thereof, shall be prima facie evidence in all Courts and places of the facts therein stated. For any search of the files and records when no certified copy is made, the State Registrar shall be entitled to a fee of fifty cents for each hour or fractional part of an hour of time of search, to be paid by the applicant. And the State Registrar shall keep a true and correct account of all fees by him received under these provisions, and turn the same over to the State Treasurer each month.

Section 6. That any person, firm or corporation who shall violate any rule, regulation or order of the State Board of Health relative to recording, reporting or filing information for the Bu-

reau of Vital Statistics or who shall wilfully neglect or refuse to perform any necessary or reasonable duties imposed upon them by said orders, or who shall furnish false information for the purpose of making incorrect records for said Bureau, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not less than five dollars, nor more than one hundred dollars, or be imprisoned in the County jail not exceeding thirty days, or suffer both fine and punishment in the discretion of the Court.

Section 7. That all Laws and parts of Laws in conflict with the provisions of this Act, are hereby repealed; and no system for the registration of births and deaths shall be continued or maintained in any of the several municipalities of this State other than the one provided for and established by this Act.

Section 8. That this Act shall go into effect on July the first, nineteen hundred and fourteen.

Approved the first day of September, A. D. 1914.

(Signed)

COLEMAN LIVINGSTON BLEASE,
Governor.

A True Copy.

JAMES A. HAYNE,
Secretary State Board of Health.

It will be seen that the Act contains only eight sections, and that the details are left to be worked out by the Executive Committee of the State Board of Health. This was the salvation of the bill, for where a busy legislature has to take up item by item, a long bill, such as the Model Bill as originally drafted cannot be passed, for some member of the Legislature will object, and then the Bill will be held up.

Year after year, since 1878, have we tried to have an adequate Vital Statistics Law passed, and failed simply because the Legislature was lukewarm and did not care whether the Law passed or not, and the Bill was so long that it was side tracked.

The Model Concise Law as enacted by South Carolina is recommended to other States. It can be passed; will meet with but little opposition and is adequate, covering all necessary points. The Regulations adopted by the Board, were copied with but slight modification from the original Model Vital Statistics Law. After the passage of the law and its signature by the Governor, the next question that confronted us was the fact that the Act carried no appropriation. Fortunately there was an extra ordinary session of the Legislature held in December, 1914, and we obtained the sum of fifteen hundred dollars with which to have blanks, etc. printed, so that we could actually put the Law in operation January 1, 1915. We had to send to each physician blanks for the reporting of births and deaths, to each undertaker death certificates and then came our most difficult task, viz., the appointment of Local Registrars. We thought we had solved the difficulty by appointing tll the Magistrates, except in the larger towns, but when the Attorney-General rules that Magistrates were ineligible on account of a constitutional provision that no man could hold two offices, we were again at sea. We then wrote to the Clerks of Courts of each County and asked them to name a man in each Township. In this way we secured money. South Carolina is divided into Counties and Townships. Some Counties have but a few large townships while other counties have as many as fifteen. In the large townships the local registrars are directed to appoint sub-registrars, who will report to them and be paid a fee by them. Their names must be furnished, however, to the State Registrar, who will supply

these sub-Registrars with necessary blanks. In incorporated towns we usually have the secretary of the local Board of Health as the registrar. Fortunately the appointing power is left absolutely in the hands of the State Registrar, so that appointment and removal is accomplished.

A book of instructions is sent to each local registrar, to each practicing physician and to each undertaker in the State, so that those most interested in the Law are thoroughly informed as to its provisons; also a list of registrars is sent to each registrar, physician and undertaker, so that they know to whom to report births and deaths.

What Class of Citizens Make the Best Registrars? This question, we have had too little experience to answer, but we believe from what we have observed that they must be good mixers, not contentious, preferably married, so that their wives or daughters can act as deputy registrars. The pay is so small that only very patriotic citizens will stick after appointment. Many will apply simply because to the average American citizen, a job, and especially a Government job is always sought. The State Registrar must by personal letters, frequently sent, make these local registrars feel the importance of their positions. He must praise them often and scold them as little as possible. The iron hand of the Law must be well covered with the velvet of persuasion. Friendly rivalry must be excited between counties, so that each will strive to be more nearly correct in their reports each month. Each registrar in a township must be informed monthly of the percentage of deaths he has reported, so that he will have some idea whether all are being reported to him. The use of colored maps, such as I will pass around, help to arouse interest, when shown at talks to the County Medical Societies, and thus the Doctors become interested.

Lack of co-operation on the part of physicians is one of the great stumbling-blocks. Doctors are busy men, usually autocrats; give directions to others, and are accustomed to obedience. They call no man master, especially the country physician, and they cannot be driven. However, they can be persuaded, and I usually quote Dr. Chazal to them as follows: "Public hygiene derived its birth from, and depends for its future progress on Vital Statistics and every argument which favors the establishment of Board of Health is an argument for Vital Statistics. For while a Board of Health without them is as helpless as a man without eyes to guide him, so without Vital Statistics the public is destitute of the only valid test of the value of a Board of Health. If a human being is much more valuable to the State than is a bale of cotton, then statistics of the human crop would prove much more valuable than statistics of the cotton crop, and yet every newspaper can and does furnish statistics of the cotton crop, such as no man can now anywhere procure as to our human crop.

Vital Statistics furnish unerring lessons as to health, prosperity and morals of the people; they teach the influence of marriage in illegitimacy and morality, the fecundity of a whole people and of the races thereof; the vital force of children; the duration of life with the expectations and value for all ages and races; the influence of meterology, occupation, locality, in generating disease and improving health, and thereby the removal of unfavorable conditions, always found, where least expected, and the approach of morbific storms, by ignorance of which negligent cities, and even nations have been destroyed.

The only foundation of life insur-

ance, Vital Statistics alike serve to guide the resident and the emigrant, the capitalist and the laborer, the politician and the statesman, the moralist and the scientist.

Ignored and disparaged by the average American legislator, Vital Statistics have been advocated and supported by Napoleon and Thiers, by Bismark and Cavour, by Gladstone and Disraeli; and their establishment has become a test of the degree of civilization reached by a people and their rulers." Doctors who have proven their patriotism in war as well as in peace will not shrink from this small encroachment on their time, when their attention is properly drawn to the valuable results to the material prosperity of the State, which a proper registration of births and deaths would produce. I have found the undertakers easy to approach and willing to aid. Some of them have proved stiff necked, but an appeal to the nearest Magistrate soon brings them to a realizing sense of the situation. For undertakers are not as popular with the general public as are Doctors, and juries are not at all hard to persuade as to their guilt, but a jury will not usually convict the family physician of a neighborhood, for fear, perhaps, that when he gets a chance, he may make it warm for them.

The Relation of the Federal Government to Vital Statistics.—I may be accused of being a backslider from the good old democratic principles of States rights and local self-government, but I firmly believe that Vital Statistics, and the information obtained by them, belong to the U. S. Government, and that this Government should work out a universal plan for obtaining them, and moreover, the most important idea of my belief is that all expenses necessary to obtain Vital Statistics should be borne by the U. S. Government. There seems to be no criterion by which the Government now judges whether a State is obtaining a true record of its births and deaths or not. States admitted to Registration Area show frequently a lower percentage of deaths per thousand than those refused admittance. Virginia was admitted on 14.2 per thousand, and South Carolina not admitted has a percentage of 15.2 per thousand. Now Virginia may have as low a death rate as indicated by 14.2 but we have serious doubts. We believe 15.2 per cent. per thousand to be about 85% of South Carolina's actual death rate, and we believe 28 to be about 80% of the birth rate, and we are going to keep hammering until we are successful in getting at least 95% of both. I append some figures obtained (Annual death rate for the State of South Carolina). I want to say that all these births and deaths are bound in volumes, numbered and card indexed. We are proud to say that we believe that the cost in our State of this work has been less than in any other State. We have spent for twelve months work an appropriation of $5,000.00. Our office force consists of the following personnel:

Jas. A. Hayne, M. D., St. Reg.

C. W. Miller, Chief Clerk	$1,200.00
Filing Clerk	720.00
Stenographer	600.00
Clerk	420.00
Typewriter	300.00
	$3,240.00

Total cost per year for salaries $3,240.00, and with this expenditure we have received, tabulated and bound in the first year 24,501 deaths and 44,950 births, and I can say without conceit, that I am proud of the record and do not believe it has ever been equaled.

Deaths and Births in South Carolina, 1915.

Counties	Deaths	Rate	Births	Rate	S. Births
Abbeville	413	11.6	942	26.5	52
Aiken	987	10.9	850	19.6	48
Anderson	987	12.8	1991	25.9	60
Bamberg	245	12.8	449	23.4	31
Barnwell	345	10.1	658	19.2	48
Beaufort	562	15.9	541	23.1	79
Berkeley	424	18.1	669	28.4	58
Calhoun	309	17.	588	32.4	56
Charleston	2490	28.	2111	23.7	298
Cherokee	342	11.9	836	29.1	17
Chester	482	16.1	842	28.2	41
Chesterfield	308	14.7	987	33.6	37
Clarendon	471	13.7	1211	35.3	94
Colleton	453	12.4	867	23.8	61
Darlington	615	15.8	1315	33.8	94
Dillon	306	12.6	616	24.8	32
Dorchester	255	13.6	432	23.1	35
Edgefield	395	13.2	763	25.6	43
Fairfield	317	10.7	801	27.1	38
Florence	811	20.5	1739	44.1	134
Georgetown	487	21.	529	23.3	51
Greenville	1174	15.4	2201	28.9	120
Greenwood	551	14.7	898	24.1	51
Hampton	198	15.9	495	23.1	34
Horry	400	13.8	1200	41.5	134
Jasper	136	15.9	265	23.1	10
Kershaw	338	11.5	701	24.	36
Lancaster	388	13.9	833	29.8	33
Laurens	566	12.9	1076	24.1	66
Lee	385	14.1	900	32.9	50
Lexington	390	11.2	873	25.	47
Marion	344	15.2	750	33.2	41
Marlboro	505	15.2	980	29.6	66
Newberry	443	12.	879	23.8	47
Oconee	342	11.7	886	30.2	32
Orangeburg	872	14.3	2033	33.4	132
Pickens	331	11.6	949	33.2	35
Richland	1793	29.8	1701	28.3	143
Saluda	217	9.8	476	21.6	17
Spartanburg	1215	13.1	2542	27.5	111
Sumter	806	19.4	1323	32.	95
Union	438	13.5	817	25.3	31
Williamsburg	567	13.9	1291	31.6	86
York	612	12.	1147	22.5	51
Total	24501	15.2	44950	28.	2874

Birth and Death Rates for South Carolina, 1915.

White death rate	12.6
Negro death rate	17.4
Negro increase over white	4.8
White Birth rate	29.1
Negro Birth Rate	26.7
White increase over Negro	2.4

Deaths in South Carolina, 1915.

Race	Total	Rate per 1,000
Whites	9,141	12.2
Negroes	15,350	17.4
Indians	10	...
Total	24.501	15.2

Births in South Carolina, 1915.

White Male	11.015	...
White Female	10,127	...
Total	21.142	29.1
Negro Male	12.110	...
Negro Female	11.512	...
Total	23.622	26.7
Indian Male	2	...
Unknown	184	...
Total	44.950	28.

Still-Births—2,874.

Deaths in South Carolina During Year of 1915.

Arranged According to Race, Sex, and Age.

Age	White Male	W. Female
Under 1 year	998	790
1 to 5 years	595	451
5 to 10 years	112	97
10 to 20 years	191	192
20 to 30 years	299	409
30 to 40 years	309	431
40 to 50 years	358	346
50 to 60 years	466	365
60 to 70 years	597	500
70 to 80 years	482	543
Over 80 years	204	328
Unknown (data not given)	38	40
Total	4649	4492

Age	Negro Male	N. Female
Under 1 year	1763	1587
1 to 5 years	803	830
5 to 10 years	253	257
10 to 20 years	519	698
20 to 30 years	806	1227
30 to 40 years	605	895
40 to 50 years	575	694
50 to 60 years	532	517
60 to 70 years	590	529
70 to 80 yeahs	450	396
Over 80 years	258	307
Unknown (data not given)	134	125
Total	7288	8062

Age	Indian Male	I. Female
Under 1 year	3	0
1 to 5 years	1	1
10 to 20 years	1	0
30 to 40 years	2	0
50 to 60 years	1	0
70 to 80 years	1	0
Total	9	1

Causes of Deaths in State of South Carolina, 1915.

Diseases	No.	Rate per 100,000
Diseases, Circulation	2539	157.9
Tuberculosis Pulmonalis	1991	123.8
Diseases, Kidney	1646	102.4
Pellagra	1469	91.3
Intestinal Diseases	1306	81.2
Pneumonia	1235	76.8
Typhoid	553	34.4
Cancer	513	31.9
Dysentery	502	31.2
Malaria	465	28.9

Pneumonia Broncho ...	320	19.9
Whooping Cough	207	12.9
Syphilis	127	7.9
Dyphtheria	110	6.8
Meningitis	84	5.2
Cerebro Sp. Meningitis	51	3.2
Tu. of the Bowels	47	2.9
Tuberculosis, Peritoneal	37	2.3
Tubercular Meningitis..	30	1.8
Tetanus	26	1.6
Pleurisy	25	1.5
Pneumonia Hypostatic .	19	1.2
Erysipilas	15	.9
Tubercular Laryngitis .	14	.8
Typhoid Pneumonia ...	11	.7
Dysentery, Amoebic ...	8	.5
Tuberculosis of Joints ..	8	.5
Scarlet Fever	7	.4
Measles	6	.37
Typhoid Fever	5	.3
Scurvy	2	.12
Smallpox	2	.12
General Accidents	557	34.6
Homicide	139	8.6
Suicide	53	3.3
Railroad Accidents ...	53	3.3
Lightning	18	1.1
Legal Electrocutions...	9	.5

Deaths From Pellagra Reported for South Carolina, 1915.

Counties	Total	Rate per 100,000
Charleston	185	208.
Sumter	66	159.2
Greenwood	57	152.6
Chester	44	147.3
Greenville	100	131.2
Richland	79	131.2
Anderson	93	121.
Georgetown	26	114.4
York	53	100.4
Florence	39	98.8
Edgefield	28	94.1
Laurens	41	93.7
Horry	27	93.4
Marion	21	92.8
Dillon	23	92.6
Union	29	89.9
Lee	24	88.
Spartanburg	79	85.
Cherokee	23	80.1
Dorchester	15	80.1
Abbeville	26	73.1
Lancaster	20	71.7
Newberry	26	70.4
Pickens	20	69.9
Marlboro	23	69.6
Calhoun	12	66.2
Oconee	18	61.4
Darlington	22	56.7
Orangeburg	34	55.9
Aiken	24	55.4
Kershaw	16	54.8
Williamsburg	22	54.
Lexington	17	48.7
Fairfield	14	47.
Bamberg	9	46.9
Berkeley	11	46.8
Beaufort | Hampton | Jasper |	25	44.5
Barnwell	15	43.8
Saluda	9	42.9
Chesterfield	12	40.8
Colleton	13	35.7
Clarendon	11	32.1
State Hospital for Insane, residence unknown	18	

DIGESTIVE DISORDERS IN INFANTS.

By Maynard Ladd, M. D., Instructor in Pediatrics, Harvard University.

LET me first of all express my appreciation of the honor conferred upon me in your invitation to deliver the address in Pediatrics.

It has been very gratifying to note the increasing number of physicians of the South who have come to Harvard to study diseases of infancy and childhood. I hope that the invitation to me may be interpreted as an indication that this time has been profitably spent. It is certainly a great pleasure for me to renew acquaintances so pleasantly recalled, and to accept the hospitality you have so generously extended.

The subject I have chosen, the digestive disturbances of infants, is always a vital one, for it is the foundation of Pediatrics. My purpose is to review what seem to me the essential points in the part played by indigestion, fermentation and infection—in producing the common types of intestinal disturbances, characterized by diarrhea. In conclusion, I shall present briefly some results which I have obtained by a special method of feeding in certain forms of impaired digestion with malnutrition.

It is impossible to correlate into rules for feeding all of the conclusions of recent investigation. Much of the data is incomplete and so subject to change that their application to practical feeding can be made only to a limited extent. The mineral salts of the food, for instance, have been shown to be closely connected with disturbances of digestion and nutrition, and investigation of their metabolism is much to the fore in modern scientific research, but as yet little has been learned that one can apply in a useful way. On the other hand one understands better the part played by the ingredients of milk modifications, their relation to each other in the processes of digestion, and the effects of bacterial fermentation and of infection as factors in the production of diarrhea.

The necessary ingredients of an infant's food are fats, carbohydrates, proteins, mineral salts and water. They are present in milk in an unstable mixture easily broken down by digestive fluids and bacterial action. Deficiency or excess of digestive secretions, too much or too little of one or more of the ingredients of the food, and abnormal forms of bacterial activity disturb the processes of digestion and result in states in which it is difficult to distinguish between cause and effect.

This inter-relation of the food elements to each other and the possibility of confusing primary with secondary conditions must be keenly appreciated by the careful feeder, or erroneous conclusions may be drawn and serious errors of treatment made.

Many of the differences between cow's milk and breast milk can be changed or the effect neutralized by methods of milk modification so that in a large majority of case of feeding an efficient substitute can be provided. In rare cases there does exist in infants a true milk idiosyncrasy, but most of the cases so reported are not as represented. When a milk idiosyncrasy does exist, it is probably due to anaphylaxis to the protein, caused by too early administration of milk, or by too large a proportion of casein, by which sensitization to cow's milk protein is produced. True cases of milk anaphylaxis are rarely seen by experienced feeders. The supposed intolerance generally disappears when the previous feeding is carefully analyzed and the milk prop-

Address in Pediatrics before the South Carolina Medical Association, Charleston, S. C., April 19, 1916.

erly adapted to the individual peculiarities of the child.

Fat Indigestion.—The quality of cow's fat cannot be altered in milk modification, but owing to its greater difficulty of digestion, lower percentages are given in the early months. A new born baby who takes readily 4 per cent. of breast milk fat may find two per cent. of cow's fat its maximum percentage. This limitation of tolerance can be overcome in normal babies by very gradual increases so that many healthy infants of six months can digest the full four per cent. of cow's fat. This amount should never be exceeded. If, however, the fat digestive function has been overtaxed in the early months, the infants' intolerance to fat is greatly increased and may reach such proportions that even minute amounts in the food will precipitate the most serious digestive disturbances. It is often a matter of months to restore the fat digestion to its normal. A large proportion of cases of so called difficult feeding are infants of this class.

The quantity of fat which may be given depends to some extent upon the proportion of sugar and proteins in the mixture. If these are given in high percentages, so much energy is used up in digestion and assimilation that only relatively low amounts of fats can be tolerated. If, in a case of severe fat indigestion, very high sugars and proteins have been given to supply the caloric needs of the infants, their percentages should be gradually reduced as the fat is re-introduced into the mixture. This is a fundamental principle in building up an overtaxed fat digestion.

There are two principle sources of danger in producing fat intolerance. The first is an over zealous effort to make a baby gain rapidly in weight in what is usually an unhealthy competition with other infants of the neighborhood. The second error is generally unconscious. It arises from the lack of exact knowledge of the percentage of fat in the cream or top milk which is used in making up a mixture. Cream does not always rise by gravity according to fixed rules. An average gravity cream, that is, cream down to the apparent line of separation, is 16 per cent. fat. On the other hand owing to differences of temperature at which the milk is set, differences in the fat composition of the whole milk, and to what is called the viscidity of milk, a gravity cream may vary from ten to twenty per cent. fat. If some check is not made in reference to this point it is easy to understand how the fat percentage of a mixture may vary greatly from that which has been calculated.

The earliest symptoms of fat indigestion are loss of appetite, and either diminished rate of gain, or loss of weight. This is followed by regurgitation and later by severe vomiting, the vomitus being strongly acid in odor and reaction from the presence of butyrin and other fatty acids. The stools are increased in frequency, containing many small soft curds, accompanied by mucus and presenting an appearance similar to curdled milk. In long continued cases the stools become grayish in color, hard and dry. The fatty acids may, in the absence of alkaline bases, appear in the stools free and from their irritating action produce watery, strongly acid movements which cause marked scalding of the buttocks. When combined with alkaline bases these fatty acids form the typical soap stools. If the fat is in great excess of the infant's tolerance, the fatty acids draw from the tissues alkaline salts, and this brings about a relative acidosis with increased elimination of ammonia in the urine. If allowed to continue, acid intoxication results with the characteristic rapid respiration, rest-

lessness, cherry red lips and eventual coma and death. Many of the worst cases of malnutrition have their origin in a primary fat indigestion which so disturbs the general processes of metabolism that the whole mechanism of digestion is upset and intolerance not only to fats but to carbohydrates and protein is developed.

The appearance of soaps in the stool alone is not necessarily an unfavorable symptom. After the first weeks of life from 14 to 25 per cent. of the normal dried stool is composed of soaps. Over attention to the stool without regard to the general condition of the patient, may lead to too radical reduction of the fat contents of the food. This is a serious mistake, for the continuous use of a fat free or low fat mixture in itself lowers the tolerance for fat, which is an essential element for normal growth and nutrition.

In a well established case of fat indigestion radical measures should be employed at once and all fat removed from the food for a period. Slight reduction of the fat percentage generally proves a temporizing and unsuccessful policy. After a period of rest, when the symptoms of hunger become urgent and the stools are again well digested, a small amount, not exceeding one half of one per cent. may be added to the food. If this does not cause vomiting and loss of appetite, the fat should gradually be raised, at intervals of several days, until the baby begins to show a satisfactory gain in weight. The reappearance of soaps in the stools does not contra-indicate this procedure, as long as the child is eager for its food and does not vomit nor have a marked increase in the frequency of its movements. It is a question of the amount of soaps; if they are constantly increasing with the re-administration of the fats the keen appetite and gain in weight will not continue. The re-appearance of fatty acids in the stools, if in any considerable amount, generally means that the intolerance has not been overcome, and it is necessary to go back to the fat-free diet and provide a longer period of rest. One or even several set backs should not lead to the conclusion that the fat intolerance is permanent. Repeated trials, controlled by good judgment bring almost always their reward in a successful restoration of normal fat digestion.

This subject of fat intolerance cannot be properly considered alone, however, but must be studied in connection with the digestion of carbohydrates.

Carbohydrate Indigestion. — Carbohydrates are never absorbed as such from the intestines but must first undergo changes by amylolytic ferments.

So far as the presence of necessary ferments are concerned, any of the sugars should be suitable for infant feeding. As all milks contain lactose to the exclusion of the other carbohydrates, this would appear to be the sugar best suited to the infant. The evidence is against the theory that lactose has a specific intoxicating effect. It is, however, a favorable culture medium for bacteria which by their activity can develop products harmful to the body.

Lactose and cane sugar are absorbed slowly, maltose more rapidly, and dextrose still more so. Lactose and maltose increase the retention of nitrogen because the intestinal bacteria will utilize sugar in preference to protein, and thus form less nitrogen to be excreted in the stools. Neither of these sugars influence the retention of mineral matter nor the absorption of fats.

In abnormal conditions the bacteria break down the sugars, forming lactic, acetic and butyric acids, which are prolific sources of intestinal disturbances. Their irritant action increases peristalsis, hastens the excretion of the food

and causes diminished absorption. Disturbances of metabolism follow Starches, are affected in the same way as sugars, but as their molecule is more complex their conversion is a longer process.

Lactose.—The arguments in favor of the use of lactose in infant feeding may be briefly stated. It is the form of sugar contained in breast milk. Being more slowly absorbed than other sugars it is more likely to favor the development of the normal fermentative bacteria in the intestines and is least susceptible to butyric and alcoholic fermentation. On the other hand, its energy value is less than malt sugar, and it is less efficient as a weight producer. When given in excess it is more likely to cause diarrhea owing to its slow absorption and greater fermentability. Also many brands of commercial milk sugar are adulterated. Lactose has no specific pyrogenic action, but when given with sodium salts in diseased conditions of the intestines it may produce fever. In acute disturbances of digestion, therefore, it is usually less well borne than maltose. Milk sugar should never be given in greater percentages than seven, and even this amount may cause trouble to susceptible infants.

The causes of disturbances arising from milk sugar are due partly to faulty digestion and partly to bacterial fermentation. It is not profitable or possible to differentiate between these two factors. In either case, the characteristic symptoms are watery, greenish, acid stools which cause marked irritation of the buttocks and genitals. The odor of the stool is of acetic, lactic or succinic acid. The same odor may be detected in the vomitus, but vomiting is a much less frequent symptom in sugar than in fat indigestion.

In severe acute cases there is sharp loss in weight, high fever of temporary duration and symptoms of nervous disturbance, with extreme prostration. Rarely the symptoms are fulminating and death occurs.

There are chronic cases without the fever and severe toxic symptoms. These make up a fair number of the cases of chronic intestinal indigestion with malnutrition which may be seen in any feeding clinic.

The treatment of diarrheas due to excess of, or to abnormal fermentation of milk sugar, depends principally upon the elimination or radical reduction of the milk sugar, after preliminary catharsis and water diet for twelve or twenty-four hours. It is necessary to remember that in all cases of sugar indigestion fats are not well tolerated so that they also must be temporarily reduced to about one half of the amount previously taken. Skim milk and whey contain even more milk sugar than whole milk, so that if used considerable dilution is required to bring the sugar down to the necessary amount. It is in these acid fermentative diarrheas that eiweis milk or precipitated casein finds its greatest usefulness, owing in part to the lower sugar content and in part to the fact that much higher casein percentages may be given because of its subdivided condition. A food rich in protein tends toward the production of an alkaline stool and is therefore antagonistic to acid fermentation of the sugars.

When the acute symptoms have subsided, sugars should be added to the food in gradually increasing amounts, but it is advisable to utilize another kind such as maltose (dextrin-maltose), limiting the amount of milk sugar to that contributed by the cream and milk in the formula prescribed.

In rare cases of the chronic type, prolonged reduction of the lactose being indicated, the food must consist mostly of fat and proteins in higher percent-

ages than usual in order to supply the caloric needs. The best method of dealing with such cases is to utilize a higher percentage cream to get whatever percentage of fat is required and to use a precipitated casein for the protein percentages. In this way the lactose can be kept down to the minimum. Homogenized olive oil mixtures with precipitated casein are also very useful in such cases, as the irritating volatile fatty acids of the cream are in this way largely eliminated. As these mixtures are not conveniently obtained outside of a milk laboratory it may be more practicable to provide a wet nurse, for breast milk in spite of the high lactose percentage is generally well borne. This fact is difficult to explain except on the ground that there is some subtle difference between commercial lactose and that excreted in human milk, a point which lacks positive chemical proof. It is also possible that the greater digestibility of the fat or breast milk affects favorably the assimilation of sugar.

In the great majority of cases, fortunately, the temporary withdrawal of the lactose and the subsequent use of dextrin maltose preparations, with properly adjusted fat percentages, result in the re-establishment of normal digestion and weight development.

Maltose.—Malt sugar, as used in infant feeding is never a pure maltose, but is a mixture of dextrin and maltose, the proportions varying according to the preparation. The larger the proportion of dextrin, the less rapid its absorption. Both maltose and dextrin are absorbed as dextrose, the same as lactose, but being lower sugars they are more quickly reduced and absorbed and are of greater energy value as weight producers. The assimilation limits of maltose is twice as great as that of lactose and the sugar is more directly utilized. The dextrins are reduced to maltose before being converted to dextrose. The larger the percentage of maltose in the preparation the greater the laxative action, while the dextrins produce the opposite effect, a fact which may profitably be taken advantage of in determining the best preparation to use in babies with marked tendency to constipation or diarrhea. It is possible that the laxative action of dextrin maltose depends upon the different salt contents and upon the presence of a substance called phytin. If the maltose is made from potato starch there is a small amount of mineral salts and phytin; if from barley the percentages of both salts and phytin are much higher. One of the commercial preparations which is distinctly costive in action is said to be derived from potatoes. It also has a high dextrin and low maltose content as compared to other malt preparations, the majority of which are distinctly laxative in their effect.

The efficiency of a malt sugar mixture is increased usually by the addition of cereal decoctions, like barley water, probably because they increase the colloidal action of the mixture on the proteins.

Dextrin maltose does not undergo lactic acid fermentation but is more susceptible to butyric acid fermentation than lactose. It is absorbed wholly as dextrose; whereas milk sugar is converted into dextrose and galactose and the galactose requires further energy to be converted into glycogen before it is utilizable. There is, therefore, definite physiological reasons for preferring dextrin maltose preparations in difficult cases of feeding with malnutrition, and in my experience they have proved of greater practical usefulness. In normal healthy infants, however, lactose serves its purpose sufficiently well.

Excessive proportions of malt sugar

will cause a diarrhea, in appearance similar to that caused by excessive amounts of lactose, except for the color of the stool, but the acute disturbance is less severe and more amenable to treatment.

Cane Sugar.—Cane sugar, like lactose is split into half dextrose and half lactose, the latter not being utilized until further changed. It has therefore no advantage over lactose, and is less useful than the dextrin maltose preparations which are reduced wholly to dextrose. It has the disadvantage of undergoing alcoholic fermentation instead of lactic acid fermentation and is therefore more likely to produce gas and symptoms of colic. A further disadvantage of cane sugar is its excessive sweetness, so that when given in as large amounts as lactose or dextrin maltose, it is likely to impair the appetite.

Starch.—The amylolytic ferments are present in the saliva and pancreatic secretions at birth, but not in sufficient amounts to be utilized for the digestion of starch until the second half year, and generally not until the ninth month. This function varies with different infants, however, and as starch decoctions, such as barley water, have a distinctly colloidal action on proteins, their use at any age may clinically appear to be favorable by making the casein curds flocculent and therefore more easily digested. Cereal diluents may therefore be useful at all periods; in the early months because of their mechanical action, in the later months both for their colloidal action and their food value, and in preparation for the digestion of starchy foods of the second year diets. Clinical experience had led to the custom of fixing the maximum percentage of starch in an infant's food in the first year at .75 per cent. Lower percentages than these are inefficient for effective colloidal action on the protein, and higher percentages are rarely utilizable. The fat and protein in the cereal diluents are practically without influence upon nutrition owing to the extent to which they are reduced in the dilution. Barley flour is the starch used by preference in the first year. It is more constipating than the sugars owing to its complex molecule and slow disintegration into sugars, as a result of which fermentation goes on more slowly and there is less formation of irritating end products.

The best results in feeding are often to be obtained by combining the advantages of several carbohydrates. Sufficient lactose is generally present in the cream and milk of a formula to supply food for the development of the normal fermentation bacteria. Additional sugars are best obtained by dextrin and maltose, while cereal decoctions are used chiefly for their colloidal action on the protein.

Protein Indigestion.—An infant requires protein to replace nitrogeneous waste and furnish material for new cell formation, a requirement which fats and carbohydrates cannot meet. Anything above this nitrogen requirement is disadvantageously utilized for heat production which is essentially the function of the fats and carbohydrates. The protein need of infants varies from 1.5 to 2 grammes per K. (.7 to .9 grammes per pound) of body weight. Expresses in other terms Rubner has calculated that an infant should have 7 per cent. of the calories in the form of protein. The average modified milk mixture greatly exceeds this amount. An increase of protein at first results in increased nitrogen retention, which is followed by increased excretion.

The amount of fat in the food influences nitrogen retention little if at all, but carbohydrates do increase nitrogen retention, unless given in

amounts sufficient to produce diarrhea, in which case there is considerable loss of nitrogen. Increase of the protein in the food while at first increasing nitrogen retention, does not result in gain in weight. There is therefore, no logical reason for very high proteins in an infant's food, except in cases in which fats and sugars cannot be given in sufficient amounts to supply the caloric needs or in order to make a stool temporarily alkaline to counteract acid fermentation. The continued use of very high proteins makes more difficult the giving of fats and carbohydrates in proper proportions. While it is essential that the minimum protein requirements should be provided, it is an error in feeding to continue very high proteins for too long a time and at the expense of the other ingredients of the milk. When, therefore, a disturbance of digestion has been corrected by the use of a high protein milk, it is good policy to reduce the protein to 1.5 to 2 grammes per K. of body weight when the time comes to re-introduce fats and to increase carbohydrates in the diet.

There is a tendency at present to minimize the power of protein to cause disturbances of digestion for the effects of such over-feeding are less easy to recognize than in cases of fat and carbohydrate indigestion. It has been shown that very high protein long continued may cause fever and irritation of the kidneys and there is reason to believe that the equilibrium of metabolism may be disturbed in other ways and result in loss in fats and carbohydrates from the body. It is probable that the baby artificially fed on cow's milk wastes more nitrogen, (or can utilize a smaller proportion of the protein constituent of the food), and so requires a higher minimum for normal nitrogen retention. Still it is safe to follow the indication set down by nature in the composition of breast milk, and not to exceed in the first six months a protein percentage of 1.5, on in the last six months of 2.00 or at the most 2.50 per cent. In many cases of disturbed digestion, much lower percentages can be given with advantage for a limited time.

The digestibility of proteins is greatly influenced by the form in which it is administered. The casein of cow's milk, being greatly in excess of the soluble protein, is naturally coagulated in large indigestible masses in the stomach. As a result the contents are not readily expelled and digestion and assimilation is slowed. This may favor fermentation and putrefaction and cause various types of indigestion. On the other hand the digestibility of the protein will be greatly enhanced, and correspondingly favorable results obtained in feeding, if the casein is protected by the colloidal action of cereal diluents, or if it is rendered incapable of coagulation by previous application of heat (boiling), or if it has been precipitated and pulverized and re-incorporated in the milk, or if by the action of lactic acid cultures it has been reduced to the lactate of casein.

Protein Milk.—This is a mixture first suggested by Finkelstein and Meyer under the name of eiweiss milch, it is also described as "casein" and "al bumin milk." Its method of preparation is as follows:

Four teaspoonsful of essence of pepsin are added to a quart of milk heated to 100° F. The whey from the resulting curd is strained off through a linen cloth and the curd washed, and then forced through a fine sieve to divide it minutely. To the pulverized curd is added a pint of water and a pint of buttermilk. The composition of the food so prepared is

Fat	2.5%
Sugar	1.5%

Protein 3.0%
Mineral matter ... 0.50%

This analysis will vary considerably however, according to its method of preparation. If a small amount is made, considerable fat is caught in the linen mesh, and the percentage runs lower than that given. If large amounts are made at one time, using the same strainer, higher percentages of fat are obtained. There is also considerable variation, depending upon the fat percentage in the milk, the temperature at which the milk is heated, the length of time the curd is forming, and the extent to which it is washed.

There are several points in such a mixture to which favorable results may be attributed, the low fat, the very greatly reduced sugar, the fine division of the casein curd and the presence of living lactic acid organisms. The salts are somewhat higher than are obtained in the usual modified milk mixture. A quart of this mixture has a caloric value of 370 calories. Its efficiency is unquestioned in fermentative diarrheas due to sugar indigestion, owing to the low sugar, the presence of lactic acid bacilli and the finely divided casein. Its relatively high fat content, however, militates against its usefulness in case of fat indigestion and its high protein in cases with putrefaction. As a food for continued use, or in normal cases of feeding, its low carbohydrate content must be made up by addition of some sugar, preferable maltose. The preparation is difficult to make outside of hospitals or milk laboratories and it is highly doubtful if it offers any advantage over methods previously in use in this country.

By the use of fat free lactic acid milk, very concentrated creams and precipitated casein we may in American milk laboratories prescribe formulae which combine all the advantages claimed for eiweiss milch, which are much more susceptible of exact variation and adaptation to individual needs. The fats for instance may be eliminated or increased at will, the protein (in the form of lactate of casein or precipitated casein) may be raised or lowered. The strain of lactic acid bacilli may be selected. Carbohydrates in any amount and variety may be prescribed according to the indications. In other words instead of prescribing a food of a fixed composition to all needs and conditions of digestion, we may utilize the favorable features of eiweiss milch and still follow the principles of percentage feeding.

Kendall has shown that fermentation always precedes putrefaction. Proteins are absorbed as amino-acids, which are chemically but one step removed from the toxins which result from putrefactive processes. In the presence, therefore, of putrefactive bacteria either in the milk or in the intestines excessive amounts of amino acids form favorable conditions for the development of such organisms and may result in serious conditions of toxaemia. Therefore in diarrheas with stools strongly alkaline and of foul odor there may be considerable danger in the continued use of high protein mixtures.

Protein disturbance in babies who are artificially fed, arise with few exceptions, from indigestion of the casein. The indigestion which is sometime met with in babies fed upon high whey-protein percentages is to be referred to the sugar or possibly the salt content of the whey and not to whey-protein itself. Casein indigestion is characterized by vomiting of large curds with much flatulence and colic. The stools are increased in frequency, and are loose and watery, of foul odor, alkaline and contain mucus and large, tough curds. Coincidently, if the diarrhea is allowed to continue,

there is set up fermentation processes of the other elements of the milk, and fever of temporary duration results. If the amount of protein at the outset is radically reduced, or if the casein is made more digestible by one of the methods previously mentioned the disturbance is easily regulated. In the more serious cases, the additional use of lactic acid cultures tends to inhibit the growth of the putrefactive bacteria and is probably the most effective way of controlling a dangerous condition.

In breast-fed infants protein indigestion is the most common of all forms of indigestion and is less easily controlled, because of the difficulty of altering the composition of the breast milk. Very high protein elimination occasionally results from fatigue or nervous conditions affecting the mother and the reaction on the child is often serious. Temporary withdrawal of the breast milk is then the safest treatment, while exercise and methods designed to remove or alleviate the cause of worry or excitement of the mother, are carried out. The symptoms are much the same as in protein indigestion from cow's milk, but the nervous disturbances in the child are more severe. Convulsions and fever may occur. The analysis of the milk in such cases, while usually showing a high protein, sometimes as much as 3 or 3.50 per cent., does not always follow the rule. The disturbances may possibly be due to elimination of other toxic material about which little is known.

The use of whey-protein mixtures is especially valuable in cases of protein indigestion, as a temporary substitute food, while the breast milk is being regulated. When the infant is artifically fed, they serve as a means of supplying low casein percentages without reducing the total protein to a point below the minimum protein requirement. If, however, the protein indigestion is associated with fermentation, the high sugar content of whey may render it unsuitable, and better results are obtained from precipitated casein mixtures.

Indigestion with Fermentation.—In ordinary indigestions which have been described, it is always a question as to whether the symptoms are due to an absolute or relative insufficiency of the digestive fluids, or to this factor combined with abnormal fermentations. Theoretically, simple indigestion should apply to conditions in which the fermentation processes play an unimportant part in the disturbances, but as a simple indigestion may be the first step leading to abnormal fermentation, and as fermentation is always the predominating factor in producing symptoms, it is not practical to differentiate simple indigestion from indigestion with fermentation.

It is, however, of very practical importance to differentiate **indigestion with fermentation** from **infectious diarrhea.** All the severe forms of diarrhea can be put in one of these two divisions, bearing in mind that an infectious diarrhea, meaning a definite infection of the intestinal mucosa, may coexist with a state of indigestion with fermentation.

The fact that a few cases may be difficult or impossible to classify, does not alter in the great majority of cases the practical value of such a conception of diarrhea for purposes of prognosis and treatment.

Indigestion with fermentation, therefore, deserves consideration in more detail than has been given it in connection with simple indigestion of the food elements. Its etiology is directly connected with abnormal bacterial activity in the intestinal tract, either directly upon the food constituents or, secondarily, upon the products of their incomplete digestion. The bacteria may

be introduced into the tract along with the food and develop increased activity under the favorable conditions which are present; or they may be the normal constituents of the intestinal tract, but under the influence of an unbalanced food find the conditions favorable for development into pathological agents. It is easily understood therefore, how the two factors, an unbalanced or unsuitable food, together with an infected milk produce the etiological factors first of indigestion, then of fermentation and finally, if not checked, of actual infection of the mucosa and submucosa.

The causes concerned with the production of simple indigestion have already been considered, as well as some of those which have to do with fermentation. In the normal digestion of fats, the neutral fat is split into glycerol and fatty acids by the pancreatic lipase (steapsin). A portion of the fatty acids so formed are dissolved by the bile and absorbed as fatty acids, the rest unite with alkalis of the pancreatic fluid and of the food to form soluble soaps which are emulsified by the bile and so absorbed. If the acid formation is excessive the bile may be decomposed and fail to dissolve the fatty acids preparatory to absorption and so lose its properties of emulsifying the soaps. Excessive fatty acid formation may arise from excess of fat in the food or from the bacterial fermentation of the carbohydrates. The inter-relation of these two food constituents is thus apparent, and is of very great importance. The presence of excessive amounts of irritating fatty acids from whatever source causes increased peristalsis, lessens the rate and degree of absorption, and causes a marked increase in bulk of excreted stools. The waste in neutral fats, fatty acids, soaps and ash is markedly increased, and with the lessened power of absorption there is a greatly diminished power to split fats.

Nature tends to check this riotous process by an outpouring of alkalies from the tissues and by the utilization of the alkaline bases in the food to neutralize the fatty acids and form soap. The drain of calcium and magnesia from the tissues and the breaking down of the protein results in excessive liberation of nitrogen in the urine and a relative acidosis develops which often determines the clinical manifestations of the condition.

Another chemical process antagonistic to acid production is the breaking down of the protein constituents of the food with the formation of alkaline end products. If these are utilized to neutralize excessive acid production there is less protein products available for absorption and there is a consequent disturbance of metabolism and nutrition. Normal digestion and absorption, therefore, can proceed only when all these digestive and fermentative processes are in a state of equilibrium. A disturbance in any one of them, whether originating in indigestion from an unbalanced food, or from bacteria introduced from without, or from hyperactivity of the normal intestinal flora, results in a condition of digestive chaos, with the clinical picture of diarrhea.

The bacteria chiefly concerned in the production of fermentation are the B. perfringens, the butyric acid bacilli, the B. acidophilus, and the B. putreficus. It is also probable that the normal intestinal flora, such as the colon bacillus and the normal lactic acid bacilli may as a result of disturbance set in motion by indigestion act as fermentative bacteria. In any event the etiological factors are mixed and probably numerous and the bacteriological examination of the stools yields little conclusive evidence as to the cause of the diarrhea.

The pathological changes in the in-

testines in fermentative diarrhea, as opposed to infectious diarrhea are slight, showing little beyond hyperaxemia of the mucosa and mild catarrhal inflammation.

Symptoms.—The onset of fermentative diarrhea is acute with high fever (103° F. to 105° F.) and the rapid pulse and respirations. Vomiting may or may not occur. The abdomen is moderately distended and the toxic symptoms usually severe. Diarrhea rapidly sets in, the stools being frequent, watery, fatty, often green in color, and sour and acid, or foul and alkaline, according to whether the fermentation is of the carbohydrates and fats, or of the proteins. There is much mucus and irritation of the buttocks when acid fermentation is present. Blood is not present. The fever while apt to be high is not maintained, but drops when the intestines have been emptied of their fermented contents. Continued use of food favorable to the continuance of the fermentative processes results in the renewal of the fever, and in such cases the toxaemia may assume such proportions as to cause death. Rapid loss in weight is the rule. The urine is diminished, and moderate leucocytosis (15,000 to 20,000) is present. If not promptly and intelligently handled such diarrheas overwhelm the system with the fermentation products or by lowering the resistance of the tissues pave the way for direct infection of the intestinal mucosa.

The differential diagnosis from infectious diarrhea while not always to be definitely determined, is made by the relatively rapid subsidence of the toxic symptom after free catharsis, the temporary elevation of the fever, which lasts rarely for more than two or three days, the absence of blood in the discharges and the characteristic fermental stools. The prognosis is never to be regarded lightly while the toxaemia is severe and the temperature remains high. Cases in which the stools are watery, dark brown and of musty odor are usually more serious than those with definitely sour or foul odor. The symptoms may become fulminating with excessive vomiting, hyperpyrexia or meningismus and death rapidly ensue; if the child survives the first three or four days, recovery usually takes place, but if the feeding is not properly directed the diarrhea becomes chronic and malnutrition with intolerance for all the food ingredients results.

Treatment.—At the very onset of the diarrhea free catharsis with castor oil or calomel, followed by irrigation of the bowel with saline solutions two or three times the first day and then once or rarely twice a day subsequently should be instituted. While this clearing out process is being carried out food should be withheld for a period of twelve or twenty-four hours or until the temperature breaks, and water given freely, in amounts equal to that of the previous feeding. Prolonged starvation is not desirable especially if the fermentation is proteolytic in type, for the causative bacteria will turn to the protein constituent of the tissues for food and cause a secondary and more serious disturbance. The object to be attained is the introduction of food which will inhibit the growth of the causative bacteria, by developing organisms of an antagonistic nature. In the majority of cases this can be accomplished by the use of cultures of lactic acid bacilli, of which the B. Bulgaricus is the most efficient. These may be given in broth cultures or in a ripened fat free milk sufficiently diluted not to overtax the digestion with high proteins. Eweiss milch serves the same purpose. After the acute symptoms have subsided a gradual return to the previous percentage formula is at-

tempted, bearing in mind that the fats and sugars are not well tolerated. The modified milk should continue to be ripened with the B. Bulgaricus cultures for sometime, and these naturally should never be killed by pasteurization or boiling. The dried tablets of the B. Bulgaricus are less reliable than the broth or milk cultures.

If a fermentative diarrhea does not yield to such treatment the inference is that the cause of the fermentation is a lactic acid producing organism, such as in the B. acidophilus. In sueh cases lactic acid milks of any variety are contraindicated, and the most rational treatment is to attempt to alter the reaction of the intestinal contents by the use of precipitated casein. When the stools have become alkaline, the least fermentable sugars should be used such as dextrin-maltose, and preferably a preparation that is relatively high in dextrin. The rapidity with which fats may be added to the food depends largely upon the amount of butyric acid fermentation which is present. Olive oil, homogenized in the milk mixture, is much better tolerated in convalescence from these diarrheas than cow's fat, probably owing to the almost complete absence of the volatile fatty acids.

When the fermentation is proteolytic and the stools alkaline, the theory of treatment is exactly opposite from that described. The lactic acid mixtures are still indicated but the protein should be reduced to the minimum and high carbohydrates given. In either case the fats are best entirely excluded at first and then given in small and gradually increasing percentages only when the child is convalescent. Beef juice, broths and albumin are best never given in any of the fermentative diarrheas, as they are foreign proteins and, in the impaired condition of the intestinal walls, may pass through and sensitize the infant. It is perfectly practicable to obtain an appropriate type of food to meet the type of fermentation by manipulation of the natural ingredients of milk, following the general principles of milk modifications.

Infectious Diarrhea. — Infectious diarrhea, in contra-distinction to diarrhea with fermentation, assumes an invasion of the intestinal mucosa and submucosa by bacteria with the production of pathological lesions. These vary according to the infectious agents and their virulence. There may be only catarrhal inflammation with superficial ulceration or hyperplasia of the solitary follicles and Peyers patches, or there may be deep ulcerations, with pseudo-membranous exudates involving large areas of the intestines. The severity of the symptoms are generally, but not always, in proportion to the severity of the ileo-colitis. Hyperplasia of the mesenteric lymph nodes is present but rarely goes on to suppuration. Degenerative changes in the parenchyma of the liver, spleen and kidneys occur as secondary lesions.

Infectious diarrhea should be looked upon as an acute infectious disease, not unlike typhoid fever in its origin, but differing in its onset and symptomatology according to the agent of the infection. The bacteria are present within the tissues, producing their toxins from their growth on the tissue cells themselves. The toxaemia resulting is primarily caused by such action and only secondarily by the products of fermentation of the intestinal contents. The onset of infectious diarrhea is usually acute, with high fever and considerable or severe toxaemia. The stools at once become frequent, loose, with much mucus and blood and usually pus after a few days. They may or may not show signs of fermentation, and are usually alkaline. The

characteristic of the fever is its persistence, it is high or low depending on the virulence of the infecting bacteria, but always continued. When ulceration occurs blood is present and persistent in the stools. Pain and tenesmus is prominent, and the abdomen, often distended at first, is soon sunken and only slightly tender. Vomiting may or may not be present.

The bacteria which are the cause of the infectious diarrhea may be divided into three classes.

1. The various types of the dysentery bacillus, (chiefly the Shiga and Flexner bacilli).
2. The B. Welchii (or gas bacillus)
3. Other organisms such as the streptococcus, colon bacillus and B. pyocyaneus.

The type of infection can only be determined by the examination of the stools and not by the symptoms or course of the disease. The exact bacteriological differentiation is not practical outside of a well equipped laboratory, but it is comparatively easy to determine whether the gas bacillus is present in considerable numbers, a point of considerable importance in the treatment. The dysentery bacilli thrive best on protein, the gas bacillus on carbohydrates. It is therefore important in the dysentery types of diarrhea to cut down protein food to the minimum and to give relatively high carbohydrates; while in gas bacillus infections carbohydrates should be excluded so far as possible and moderately high proteins given. Fats are best entirely excluded during the active stages of the disease.

The clinical test for the gas bacillus is as follows: A portion of the stool is added to a test tube of milk or sugar solution and gently boiled for a few minutes to kill all bacteria except those in a spore state. The contents of the tube are then added to a sterile fermentation tube and incubated for twenty-four hours. The displacement of a considerable amount of the fluid (one or two inch) indicates the presence of the gas bacillus in sufficient numbers to warrant the reduction of carbohydrates to the minimum in the subsequent feeding. The test naturally gives no evidence as to the presence or absence of the dysentery bacilli or the other possible organisms. If the gas test is negative, carbohydrates may be given with reasonable safety. Whatever the result of the bacteriological test there is little reason to give more than the minimum protein requirement. If the stools are alkaline the B. bulgaricus cultures, or diluted lactic acid milk with low proteins and moderate carbohydrates, preferably dextri maltose, make a reasonably safe diet after the initial period of starvation, catharsis and irrigation.

While these indications for feeding have proved useful, it is not meant that there is any specific food to control an infectious diarrhoea. Fermentation of the intestinal contents can be discouraged, food of a kind least adopted to the growth of the infecting agent can be given, but as the infection is within the walls of the intestines, it must run its course very much as in typhoid fever. While the disease is active the bacteria cannot be starved out nor killed by antiseptics, nor will the stools become normal and free from mucus, pus and blood, until natural reparative processes have been established. As this is a matter of time, it is necessary to provide food of some sort and the question is limited to what kind, in view of the nature of the infections, is most likely to keep down fermentation and provide the least favorable media for growth of the active agents of the infection. Having determined these factors, the management of the case is that of any acute

infectious disease, with toxaemia and deficient elimination. These are matters of general treatment into which it is unnecessary to go.

In February, 1915, I called the attention of the members of the New England Pediatric Society to the possible uses of the homogenizing machine of M. Gaulin of Paris for purposes of modifying milk for difficult cases of feeding, especially those showing intolerance for fat.

Homogenization of liquids of different densities consists in reducing the constituent elements to such a physical condition that they will no longer separate but will maintain a permanent and even composition throughout the mixture. This object is attained by means of a powerful pump which forces the mixture through a finely ground agate valve against a pressure of from 3000 to 5000 pounds to the square inch. In the case of mixtures of milk and oils, the fat globules are so crushed and pulverized that they become incorporated with the other elements of the milk so that they no longer rise by action of gravity nor separate after long standing. It is possible by this process to improve the emulsion of a modification of cow's milk so that it will be even finer than that of breast milk without altering in any way the chemical properties of the milk. There is reason to believe that milk so treated may be better digested and assimilated. Still more interesting, however, is the possibility of substituting some other fat than cow's fat in cases of difficult feeding, in which it is often difficult to give enough fat to make a child gain normally in weight without precipitating sooner or later a digestive crisis.

These cases of difficult feeding respond best of all to breast milk, which contains anywhere from two to three times as much fat as the child will take in a cow's milk modification. It is a question, therefore, whether such cases are correctly classified as due to fat intolerance. It would appear more reasonable to suppose the so-called intolerance to be due to something which is peculiar to cow's fat and is not present in breast milk.

The principal differences in the fats of cow's milk and human milk are the size of the fat globules and the proportion of volatile fatty acids. The proportion of volatile fatty acids in breast milk is 2.5% of the total fat; in cow's milk 27.0% of the total fat. The non-volatile fats are made up mostly of olein and palmitin in both cow's milk and breast milk. Olive oil is almost wholly olein and palmitin, and free from the volatile fatty acids which form such a large proportion of the cow's milk fat. It was my suggestion, therefore, to utilize olive oil to obtain the fat percentages in modified milk mixtures and so to eliminate the volatile fatty acids; and also by homogenization to secure an emulsion as fine or finer than that of human milk. The milk sugar and proteins were to be obtained from skimmed milk as usual, and additional carbohydrates, in the form of dextrin-maltose and starch prescribed according to the usual indications.

This method of feeding has been applied to thirty-eight (38) cases, of which twelve (12) occurred in private practice and twenty-five in the out-patient department of the Children's Hospital. I have not included in this list the older children whose diet was from the start a mixed one and which would, therefore, come into another class. I have also excluded one private case of congenital heart and enlarged thymus, two or three hospital cases which had the milk for a few days only, and a few which have recently been started. The series as tabulated includes practically all of the cases of difficult feed-

ing that I have had an opportunity to study.

It should be borne in mind that the hospital cases which I used were babies which had been under treatment for malnutrition and indigestion for considerable periods without making satisfactory progress in their weight development under the usual methods of feeding. The average length of this period of out-patient feeding in this series, before beginning the homogenized olive oil mixtures, was three (3) months. The result of the previous feedings is best appreciated when one understands that the average number of months was 6.3 with an average gain of only five (5) ounces per month. Naturally in such a series all types and degrees of indigestion were met with. It is not difficult to modify milk in such a way that fairly normal movements and freedom from discomfort are obtained, but the failure of the feeding is shown by the lack of normal weight development—and by digestive disturbances brought about when the attempt is made to raise the fats to such a point that normal gains in weight should be expected.

A normal, healthy baby gains, according to a high standard of growth, fourteen pounds in twelve months, or an average of 18.7 ounces per month.

In my series of thirty-seven cases, whose average gain on previous feedings was 5 ounces per month, for a period of 6.3 months, the average gain per month was 18.15 ounces, or within one-half ounce per month of the normal, healthy infant. The average period of the homogenized olive oil feeding was 4.7 months, a sufficient time to determine its permanent effects.

The improvement in the babies' general condition has been as striking as that of their gain in weight. Vomiting and sour regurgitation, when present as symptoms, are quickly relieved. The child improves in strength, in the quality of its fat and in the development of its functions, as one expects it to do in normal, successful feeding on cow's milk modifications. The appetite improves rapidly, and the stools soon become normal in appearance if the sugars are intelligently prescribed. By this I refer to proper proportions of dextrin and maltose. When there is a tendency to looseness, I have used the preparation known as "dextri-maltose," for the extra carbohydrates; on the other hand, when the bowels are constipated, the usual laboratory "maltose," or malt soup preparations, are preferable. In many cases a combination of the two will bring about a normal stool if used in proportions suited to the individual child. Barley water (0.75 per cent.) was used in nearly every case. In some cases the mixtures was treated to 212° F., in others given unheated. Lime water was usually given in amounts of 5 to 10 per cent. of the total mixture, but not as a matter of routine.

The percentage of olive oil was almost invariably started at 1.50 and did not exceed 3.50 per cent. The indication for raising this was the rate of gain and sense of hunger. The total carbohydrate was usually started at about five per cent. and never exceeded 7 per cent. The proteins were started at 1.50 per cent. and seldom exceeded 2%. In my opinion hunger is the safest guide as to the child's tolerance for the amount of fat it is taking. If the appetite remains keen, the olive oil is being well taken care of; if too much fat appears in the stools or if diarrhoea and vomiting sets in, a loss of appetite almost invariably occurs and gives positive indication for a reduction of both fats and sugars.

According to Freund the average normal proportion of soaps in the stools is 18.3% of the total fat, the extreme

limits varying from 4.9% to 35.9%. The mere presence of soaps in the stools, therefore, unless quantitatively determined to be beyond the normal limit, is not of itself a sure indication of fat intolerance.

This method of dealing with cases of fat intolerance and other cases of difficult feeding is applicable in cities supplied by milk laboratories and in hospitals which will incur the expense of installing an homogenizing machine. If further experience in a larger number of cases is in line with the results I have obtained in a comparatively small series, such an expense will be fully justified.

SOCIETY REPORTS

CHARLESTON.

March 15th. Dr. G. F. Wilson read a paper on the subject of Obstetrics being a resume of the work for the past year. The paper merely considered a large number of cases seen by him in his service as obstetrician to the Roper Hospital and some cases from private practice. The subject aroused general interest and many points of obstetrical practice, too familiar to be repeated, were discussed.

April 15th. Dr. Allen Jervey reported rather an unusual case of traumatic rupture of the intestine. The Interesting feature of the case being a timely diagnosis and uneventful recovery. This case will be reported in full in the Journal, for which reason I have but merely alluded to it.

Albert Nathan, M. D.,
Secretary.

HAMPTON COUNTY.

The Hampton County Medical Society met at the usual time and place. Dr. Folk, the president being unavoidably detained, and Dr. Wyman, Vice-President being called away on business, Dr. Monsen very ably presided over the meeting.

The continued, in fact, the growing enthusiasm of the members is gratifying. The committees postponed their reports, at the suggestion of the acting president through courtesy to the absent members, for though they had sufficient time and notice, it was decided that we needed their deliberations as it is our policy to maintain peace at any price—if consistent with our best interest.

It was resolved that as many as possible attend the State Convention. I am pleased that 40% of our enrolled members were present at Charleston.

Dr. Peeples read a very interesting paper on appendicitis, dealing particularly on the treatment, practicable in rural communities and as it comes for medical, not for surgical treatment. It was discussed freely.

Interesting cases were reported by Drs. Monsen, Johnson, Peeples, Tuten and Fowler. All were discussed informally and freely. The best of feeling prevails among the members and the discussions are interesting.

We adjourned to meet the second Tuesday in May.

J. R. Fowler, M. D.,
Secretary.

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The Journal OF THE South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.

Annual Subscription, $2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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EDITORIAL

Tonsils—How to Operate.

When a Surgeon intervenes in an effort to remove diseased tissue, he uses all means at his disposal to eradicate all of the disease. In many instances he violates the integrity of perfectly normal structures in a wide search for aberrant cells. This is surgical evolution and is recognized as a healthy product.

As the above statement does not admit of debate, we will not discuss tonsillotomy versus tonsillectomy, but will confine our remarks to a discussion of the proper technique for tonsillectomy. The one factor which has been of greatest importance in deciding the debate of partial versus complete removal has been a growing conception of the pathology of focal infection as applied to the tonsil. We have an explanation for the lack of relief in many of our partial operations when once we realize that a small focus of infection may be a more prolific source of discomfort and illness than a large one which demands strenuous measures by the natural forces for the production of anti-toxines. We are now frequently called on to relieve serious illnesses whose causes are located in minute ulcerations and pus pockets about the teeth. If such small sources of infection are offending agents, how can we argue that large or small remnants of tonsil tissue which become re-infected or have never ceased to be infectious are not menaces to the health and comfort of their hosts? If one does not wholly concede the above argument,

then another is that any operation less than a complete one is unsurgical, usually mutilating, interferes with normal voice production and causes chronic peritonsillar congestion.

Technique.—Any method of operatin which *completely removes the tonsil and some of the layers of fascia constituting the capsule* and the lymphatic tissue at *its lower pole, well down to the tongue* is adequate. At the present there are very few champions of the old guillotine, even the patriarchs are admitting its inefficiency.

Many good operators are enthusiastic about the Sluder method, which consists in the use of a dull snare which crushes its way thru by a push or pull depending on whose modification of the original instrument is used. With this instrument a certain dexterity is necessary in order to cause the gland to engage properly in the instrument. In America not over 60 per cent· of all operations by this method are successful. In England this method is popular but notoriously unsuccessful because of faulty technique. The most attractive argument in its behalf is that it is quickly performed, but this is true only when it is complete. On numerous occasions we have seen good operators compelled to dissect out more or less of the tonsil after an attempted removal with the rigid snare thus consuming more time than for a clean primary dissection. Some very severe hemorrhages have followed this method and it is clearly not a bloodless procedure.

We commend the following technique because it requires a minimum of time, necessitates a minimum of traumatism, permits of prompt and **complete** control of bleeding and completely removes the tonsil.

Light.—This should be projected from the head, because this plan eliminates frequent adjustment of the mirror and lamp and gives greater latitude of movement without disilluminating the operating field.

Anaesthetic.—If a general anaesthesia is to be administered Ether is preferred unless definitely contra-indicated. As soon as the operation is begun the mask is substituted for a beak thru which a continuous stream of warm vapor is delivered, thus no interruption is permitted from the beginning until the procedure is completed.

Local anaesthesia is rapidly growing as a method of choice and all over the world more and more major surgery is being done by this method. With a quiet, tractable patient over 12 years of age, we believe this to be the method of election. It can be performed absolutely without pain with one half of one per cent. Quinine Bi. Sulphate Solution—one half percent Novocaine Solution—one fourth to one half per cent· Eucaine or Quinine and Urea. These are all safe agents.

Instruments.—One mouth gag selected according to individual preference, one malleable tongue depressor, one large and one small catch forcep for traction and manipulation of the gland one tonsillar dissector, which has a right angled end for primary dissection of the layers of the capsule and a spoon shaped end for spooning out the lingual lymphatics, both ends having semi-sharp edges. One sharply pointed knife to begin the dissection with if adhesions exist. Three long Jackson haemostats for sponge holders. One Schoemaker-Rosenheim ligature forcep and one tie forcep. For this purpose a most useful instrument can be made from a straight pair of discarded scissors whose blades have been beaten to a slender shank and the ends bent at right angles forming short pot hooks with the convexities

to each other. This is a very useful instrument for rapid and secure ligation in any deep and narrow cavity.

Suction Apparatus.—This and vaporized Ether are the greatest luxuries which have been added to our armamentarium in recent years. Having used it once it becomes a necessity. An efficient apparatus can be procured for about $3.50 to $4.00 and it is indestructible. It obviates frequent sponging which always violates the epithelium of the mucosa and adds to the patient's post operative discomfort. It obviates interruption of the operation and greatly reduces the time the patient is under Ether. The operation for tonsils and adenoids may be completed in seven minutes.

These few instruments are adequate for **any** case of tonsillectomy. The success of the whole operation rests in splitting the layers of the capsule, if this is carefully done leaving a minimum amount of fascia on the tonsil and not exposing the surrounding muscles, then perfect symmetry of the fauces is preserved after healing is complete. This is known as the **intracapsular** operation.

Hemorrhage.—We contend that tonsillectomy is a major operation and should be performed in accordance with the rules of surgery. We condemn the practice of letting any patient leave the table or chair until the wounds are perfectly dry. It is bad surgery to use any of the popular and inefficient local remedies unless the bleeding is strictly a capillary oozing and under these circumstances pressure with gauze covered balls as sponges are generally quite efficient. When a vein is split longitudinally or an artery is spurting it is perfectly useless to do anything except to crush it or catch it and apply a ligature. This can be so rapidly done that it becomes the most expeditious method of controlling bleeding.

Coaguline and Thromboplastine, the latter preferred at the laboratory of the New York City Board of Health, have been recommended as Hemostatics. We are not in a position to recommend them.

Dr. Mayo's Address.

Our Association was fortunate in having Dr. Wm. Mayo as its guest, and the Journal is equally so in publishing his address.

Surgery of the colon is in its childhood. The proper approach of the subject is from the standpoint of embryology and physiology; hence real progress in surgery can be made only as knowledge of its physiology advances. We have learned that methods of suture, of anastamoses, in the colon are different from those applicable to the stomach and small intestine. The musculature, the lymphatic drainage, the blood supply, the attachments, the function of the ileocecal valve, of the cecum, of the sigmoid, all make this portion of the digestive tract a field of special work.

The contributions of Lane did much to stimulate work in surgery of the colon. Only a few, however, have followed him in his radical procedures; and at the present time, there is a decided reaction against many of his views. The real benefits from surgical operations on the colon have came because of the more careful selection of cases, and the withholding of surgery (except in neoplasms and acute conditions) until all other means of therapy have been exhausted, and then in using it conservatively. This is the idea one gets from reading Dr. Mayo's paper. Certainly we should profit by his experience.

ORIGINAL ARTICLES

REFRACTIVE ERRORS.

Martin Crook, M. D., Spartanburg, S. C.

IN discussing this subject it is advisable, perhaps, to define certain terms, the meaning of which are well understood by oculists but which are not familiar to all physicians in general practice. We trust that this will not seem presumptious.

In the first place let us briefly review accommodation. This is the power of the eye to adapt itself for vision at different distances.

To quote Thorington, "During the act of accommodation the following changes take place in the eye:

"1. The ciliary muscle contracts.

"2. The ciliary muscle (sphincter fibers), by contracting, makes a smaller circle.

"3. The tensor choroide draws slightly upon the choroid (compressing somewhat the vitreous body), and these two sets of fibers, sphincter and meridional, acting together relax the ligament of the lens, with the result that—

"4. The lens fibers, no longer held in check, become relaxed, and by their own inherent quality (elasticity) allows the lens to become more convex, especially on its anterior surface.

"5. The posterior surface of the lens becomes slightly more convex.

"6. The iris contracts producing a smaller pupil."

When an eye in a state of rest (i. e. without accomodation) focuses parallel rays of light on its retina we call this emmetropia, which literally means "an eye in measure.' Rays of light proceeding from a distance of 20 feet or more are spoken of as parallel rays.

When an eye is out of measure the condition is called ammetropia. Such an eye does not focus parallel rays of light on its retina without any effort of accommodation.

Hyperopia, myopia and astigmatism are forms of ammetropia.

Hyperopia means an eye which is less than the standard measurement. The term "short eye" is often used and the condition is called far-sightedness. In order to focus parallel rays of light on its retina such an eye is forced to accommodate. In other words a hyperopic eye is in a constant state of accommodation, regardless of the distance between the eye and the object looked at.

Symptoms of hyperopia.—In young persons in good health hyperopia of a low or moderate degree not infrequently gives rise to no symptoms; in fact, such persons have good vision for distance. It is a mistake to infer that an individual has normal vision because he can see well at a distance (20/20). On the other hand many patients can not accommodate for the refractive error without evidences of over-action of the ciliary muscle, and accommodative asthenopia (i. e. eye-strain, weak-sight) results.

The symptoms of asthenopia manifest themselves in the afternoon, and particularly in the evening with poor artificial illumination, after various forms of near-work, such as reading, writing, fine sewing and embroidery. They consist in pain in or above the eyes; headaches, usually frontal, but occurring in the occiput and other

Read before the Spartanburg County Medical Society, March 31, 1916.

parts of the cranium; tenderness of the eyeballs; various neuralgias; lachrymation and slight photophobia; redness of the lid margins and eyeballs; burning sensations in the lids; and blurring of near vision. With a lowered vitality these symptoms are more pronounced.

In very young children hyperopia of moderate degree is a physiological condition, which shows a tendency to diminish as the child grows and in youth the eye should reach that stage of development called emmetropia, but some eyes with weak tunics pass over into myopia.

Hyperopic eyes are predisposed to styes, inflamed lid margins, conjunctivitis, vesicular and ulcerative conditions of the cornea, congestion of the retina and choroid, internal squint or "cross-eye," and glaucoma. The importance of thoroughly testing the vision in such cases can not be overestimated. Oftentimes medicinal agents are ineffective, or are only temporarily effective, until the refractive error is attended to.

The following report is of more than passing interest:

K. A., a school-girl of 8 years, was brought to office Jan. 13, with a handkerchief tied over her eyes. Father, who accompanied her, stated that she had never had blurring of vision till that morning before breakfast while studying her lessons. On her way to school that morning had suddenly become totally blind and had to be led by her little sister—studies hard—has frequent frontal headaches—there was no blindness when she reached my office.

Examination showed conjunctivitis, and fine scales on lid margins.

Proper glasses were prescribed for constant use.

Jan. 31. No conjunctivitis and lids show no scales, although no medicinal agents were used. Reports only one headache, and that very slight, since she began wearing glasses.

In myopia, or long eye, parallel rays of light are focused in front of the retina; therefore, a myopic eye does not accommodate for distance.

Heredity plays an important part in myopia. We have stated that the babe is born with hyperopia, or short eye, but it may inherit weak eye tunics. In such cases, the eyes when placed under strain soon become elongated. As contributing factors may be mentioned unhygienic environments, and lowered vitality such as may follow an attack of one of the infectious diseases.

Symptoms of Myopia.—As a rule myopia gives less discomfort than hyperopia or astigmatism.

In slight or moderate degrees the patient only complains of indistinct vision for distance. Patients will say that they do not recognize their friends on the street, that they have to sit close to the moving pictures or, in the case of school-children, to the black-board, in order to get a distinct image.

In other cases, especially those of high degree, there is pain in the eyes after near use, they tire easily, are sensitive to light and there are black spots before the eyes.

And then there are cases of high degree in which are noted destructive changes in the choroid, vitreous body, and other parts of the eye which may cause much impairment of vision and even blindness.

Astigmatism "may be defined as that condition in which rays of light are not refracted equally in all directions."

In astigmatism we have symptoms similar to those in hyperopia but as a rule are more severe and more continuous. The symptoms are depend-

ent on the variety and amount of astigmatism, the amount of near work done by the patient, and his general health; for instance an astigmatism of low degree will often produce "severe asthenopic and nervous symptoms in a young, delicate neurasthenic individual."

Neuroses occasioned by eye-strain.—In recent years a lot of important work has been done that seems to prove that certain neuroses may be occasioned by eye-strain.

In Posey & Spiller's book, "The Eye and Nervous System" we note that "The credit of the discovery that astigmatism and other optical errors may be responsible for reflex nervous phenomena belongs to William Thomson, who, in 1879, published a clinical lecture delivered in the Jefferson Medical Hospital, in which he says, 'More than ten years ago I became aware that persons who consulted me for imperfect sight presented symptoms not fairly described in the text-books under the general head of asthenopia (eye-strain) and which were indicative of some serious disturbance of the nerve centers.' Among other symptoms he mentions insomnia, loss of appetite, a fear of some impending disaster, epilepsy, general nervous prostration, choreic twitching of the muscles of the head or face. During the thirty years that have elapsed since Thomson's discovery and pioneer work in this great department of opthalmology, tens of thousands of patients have been successfully treated for nervous disorders by remedies directed only to a re-adjustment of the focusing and coordinating apparatus of the eyes."

In the same book we find thirty-six pages devoted to the subject and special stress is laid on epilepsy, chorea, vertigo and gastric disturbances resulting from eye-strain.

Regarding epilepsy they say, "It must be admitted that some other factor aside from the peripheral lesion, must be active. In considering the nature of the factor, we must assume that some state or condition of the nervous system make it peculiarly receptive, impressionable, and responsive. The writer's own belief is, that a small proportion of cases of epilepsy, and of epileptiform convulsions, has been cured by eye treatment alone, and that the proportion equals, in percentage of cures, that of any other single surgical or mechanical means. In forming this opinion, he is guided, not by his own experience, which is most limited, but by cases and histories reported in recent literature."

Thorington in his very excellent book, "Refraction and How to Refract," says, "Many patients who suffer from headaches, ocular pains, etc., during the use of their eyes, also very frequently suffer from constipation, indigestion, heart-burn, nausea, or even vomiting. Other patients may have nervous attacks, a fear of some impending calamity, or they are irritable or despondent; they may suffer from insomnia, or if they sleep it is not a restful sleep. Others may have epileptic attacks, nervous twitchings, etc. To just what extent eye-strain is responsible for these and many other reflexes the writer is not prepared to say, though every opthalmologist has certainly seen **some** cases of accommodative and muscular asthenopia with gastric symptoms, or nervous symptoms, or epileptic attacks, or irritable tempers, or insomnia, or enuresis, etc., in which these symptoms entirely disappeared after the eye-strain was properly treated."

Now a word as to squint or "cross-eye."

Let us not lose sight of the fact that in neglected cases the squinting eye (the one which does not fix the ob-

ject) becomes amblyopic, i. e., loses its acuteness of vision and finally becomes practically useless. This is due to disuse, perfect images being prevented from being focused on the retina.

If the refractive error which produces the squint is corrected at a very early age by prescribing suitable glasses, combined with other appropriate measures, the squint will usually right itself and amblyopia will be prevented.

In a few years, however, if the error is not corrected, nothing short of an operation will correct the squint and by that time the eye is hopelessly amblyopic. It is a mistake to tell the mother that the child is too young to wear glasses. Many children can be made to wear them at the age of 4 and Worth has applied them at 1 and 2 years of age.

Doubtless you are interested now-a-days in the effects of the modern moving pictures on vision.

If the eyes are emmetropic (i. e. with no refractive errors) the "movies" are a harmless sort of amusement. The same statement holds good in ammetropia if the error has been corrected and the glasses worn as they should be. But in cases of uncorrected errors Looper says, "the condition may be greatly aggravated by attending moving picture performances.

"This is particularly true in children who at first have some form of hyperopia which in itself might never become serious, but frequently seeing pictures which excite their interest and attention they naturally tax their ciliary muscles to the limit to obtain as distinct an image as possible, combined with a certain amount of reflected light which further stimulates the retina (reflexly affecting accommodation), we often have a hyperopia passing over into a myopia which is far more serious." This is due "to the increased intra-ocular congestion, pressure by the extra-ocular muscles, and straining of the accommodation, which finds fertile soil in the tender ocular structures of a child, to stretch and elongate, often starting up a progressive myopia."

ANATOMY, PHYSIOLOGY AND PATHOLOGY OF THE LARGE INTESTINE, WITH SOME OBSERVATIONS ON THE RADICAL OPERATION FOR COLONIC TUMORS.

William J. Mayo, M. D.,
Rochester, Minnesota.

TEN per cent. of the solids and forty per cent. of the fluids are absorbed in the large intestine proximal to the splenic flexure, largely in the ceco-colon. A physiologic contraction in the ascending colon at the situation of a colic sphincter in certain lower animals holds the material between this point and the ileocecal valves during absorption, and accounts for the localized cecal distention with gas and fluids noticeable on palpation in diarrhoeal disturbances. The chemical change from alkalinity to acidity of the material upon entering the large intestine, a change which is connected with bacterial action, causes the formation of gases which play an important part in the further progress of the residue in the large intestine.

The normal intestinal movement in the colon is largely antiperistaltic, so that fluids introduced into the rectum, as in Murphy's proctoclysis, are carried backward for absorption above the splenic flexure, only a small amount being taken up by the derivatives of the hind gut, although many drugs and chemicals may be absorbed

*Address in Surgery before the South Carolina Medical Association, Charleston, April 20, 1916.

in this rectum. Band has shown that solid particles, when placed in the rectum, are also carried upward by what he calls "reverse mucous currents." The descending colon, which marks the beginning of the hind gut, is usually found empty and acts as a passage-way between the physiologically active midgut and the passive sigmoid. The function of the latter is to act as a fecal container, which its trap-like curves enable it to do.

The control of the large intestine depends upon the essential rhythm of the non-striated intestinal muscle, more or less controlled by internal secretions and the sympathetic ganglia, and, while influenced by Auerbach's and Meissner's plexuses, this control is largely independent of the cerebro-spinal nervous system, as the maintenance of the body is a primative function and existed before the development of the cerebro-spinal system.

All the non-striated muscle of the body, for example, the musculature of the alimentary tract, of the bladder, ureter, uterus, etc., has the power of rythmic contraction the same as the heart. A small bit of intestine put in Lock's solution will beat for hours. The sino-auricular node of the heart gathers the impulses from the primary contractions of the muscle fibers of the auricle and is the pace-maker of the heart. The impulse passes from the sino-auricular node to the ventricle through the bundle of His, timing the ventricular beat, and this curious association of the many branched nodal cell of Keith with the non-striated muscle occurs in different areas over the entire digestive and genito-urinary tracts (Keith, Cannon, Alverez).

According to Keith[2], nodal tissue occurs in definite amounts in at least seven gastro-intestinal situations. First, about the cardia, controlling the rhythmic contractions of the stomach and the emptying of the esophagus; it is entirely probable that the so-called idiopathic dilation of the esophagus, or cardiospasm, is the result of failure of nodal control. The same tissue found about the pylorus in disease causes pylorospasm. A sphincter exists just below the common duct in certain of the lower animals, and Ochsner has shown that remnants of this muscle are to be found in man. Along this portion of the duodenum nodal tissue is to be found, which may explain the occasional case of acute dilatation of the stomach and upper duodenum which has masqueraded as mechanical gastro-mesenteric ileus.

Nodal tissue is found about the ileocecal orifice. Keith believes that this has to do with ileal stasis and lies behind those important phenomena which Lane[6] has described. Nodal tissue is found in the ascending colon, a situation in which, in many of the lower animals, there exists a true colic sphincter, and this may have some relation to cecal stasis and the gastro-colic reflexes described by Hertz. Again, this tissue is found about the recteo-sigmoid, and a fraction of control may be the cause of giant colon or Hirschprung's disease.

According to Starling and Bayliss, the intestinal tract has two rhythms, the first acting from ten to twenty times to the minute, which Mall suggests may be the heart of the portal circulation forcing the blood in the radicles of the portal veins to the liver, and the second, acting once or twice to the minute and which we recognize as the peristaltic wave.

To go further into the interesting phase of a subject to which Keith has called attention would lead us far afield. Suffice to say that the rhythmic waves are automatically checked by sphincters, and in failure of rhythmic intestinal movement and sphincter con-

trol may lie the secret of so-called intestinal intoxication and neurasthenias of intestinal origin.

In the eleventh week of fetal existence the large intestine shows the cecal bud beginning to contract at its extremity, the site of the future appendix. The intestinal tube, which has been straight, has developed the "U"-shaped loop connected with the yolk-sac by the vitelline duct close to its middle. The remains of this duct may give rise to a Meckel's diverticulum which, if present, is usually to be found in the lower ileum within two or three feet of the ileocecal valve. At the third month the entire large intestine is still to the left of the median line, but by the fourth month the head of the colon has rotated across the superior mesenteric artery and duodenum, and lies underneath the liver, to reach its normal situation soon after birth. During this rotation the contraction of the large herbivorous-like cecum into the carnivorous type is rapid, and the appendix is one result. Failure of complete rotation of the large intestine accounts for those cases of appendicitis on the left side or under the liver.

It is evident that constipation most directly concerns the sigmoid and that its function as a fecal container is a comparatively late evolution. This is shown by the great variations in its length, size and shape (Finney). The fact that the sigmoid, like the fundus of the stomach, is more or less under conscious control of the cerebrospinal nervous system also indicates a late development.

In the Annals of Surgery, December, 1900, the writer called attention to certain varieties of constipation having primary origin in the small intestine, due to congenital or acquired narrowing at the ileocecal orifice, and reported several cases relieved by operation. Further experience has strengthened the opinion therein expressed. An obstinate constipation may depend upon too prolonged retention of the ingesta in the small intestine, interfering with proper chemical changes.

The ascending colon has an insecure attachment to the posterior muscles in its retroperitoneal extent, and upon this the weight of the ileo-cecal coil is suspended. The result of the traction tends to loosen the ascending colon from its bed, leaving a pouch into which the right kidney often prolapses, the descent of the kidney being aided by the attachment of the colon to Garroto's capsule and the so-called "nephro-colic ligament." On the left side this does not obtain, as the descending colon and the iliac sigmoid is closely attached in its retro-peritoneal extent and gives a weight-bearing space of from 12 to 14 inches.

Under normal conditions, as shown by Monks, the lowest ileum lies in the pelvis, the last 8 inches ascending from the pelvis to the cecum, and its terminal two inches is closely attached on the cecal side. This attachment takes place early in fetal existence so that, as a rule, the base of the appendix will be found within three-fourths of an inch of the ileocecal orifice. The lop-sided appearance of the cecum is due to the development of sacculations, which more easily occur on the free side. The terminal six inches of the ileum has the same blood supply and lymph drainage as the cecum, through the ileocecal vessels. For this reason, in all cases of malignant diseases of the cecum, the appendix and terminal six inches of the ileum must be removed. Occasionally a lymph gland will lie in the meso-appendix, and if so, lymph drainage from the right ovary and tube may find its way into it through Cleido's ligament.

The ascending colon is supplied by

the right colic and ileocolic arteries. The corresponding lymphatic drainage extends into the lymphatic glands at the base of the right colic artery and also in the ileocolic group. In carcinoma of the ascending colon it is necessary to remove the cecum and the terminal six inches of the ileum in order to secure the tributary lymph nodes.

The middle colic is the main source of the blood supply of the transverse colon, including the hepatic and splenic flexures, and while the anastomoses with the right and left colic suffice for the hepatic and splenic flexures respectively, Kronlein points out that in four cases out of five the transverse colon itself will not be nourished in its whole extent if the middle colic vessels are ligated.

The splenic flexure of the colon has a reduplication of the peritoneum derived embryologically fom the omentum, which is sufficiently defined to be called the "costocolic" ligament. The costocolic ligament has no large blood vessels, and by division of it the splenic flexure is loosened from its deep situation and can be readily brought to the surface. The hepatic flexure has not this source of retention, therefore it is easily accessible, although there is often an extension of it to the duodeno-hepatic ligament. The lymph drainage of the hepatic and splenic flexures as well as the transverse colon follows into the root of the transverse mescolon. The lymph nodes are in close communication with the deep lymph-chain along the aorta and about the head of the pancreas, and in malignant disease the accurate removal of the lymphatic-bearing mesentery is correspondingly difficult.

The left colic artery supplies the descending colon, but its anastomosis with the middle colic above and the sigmoid below makes extensive resections in this vicinity relatively safe. Fortunately the lymph supply diminishes rapidly from the ileocecal coil, and has reached its lowest ebb in the sigmoid. The very nature of the function of the colon, containing as it does virulent bacteria and toxic poisons, makes this lymph sparseness a necessity. Butlin has shown that about 50% of the deaths from cancer of the colon take place from obstruction or other causes before there is general metastasis, and many times, if enlarged glands are present, they will be found inflammatory. The tendency of the lymph drainage of the descending colon is towards the transverse mesocolon following the middle colic tributaries.

In estimating the feasibility of removing malignant disease of the large intestine, the examination of the liver for embolic carcinoma should not be forgotten. In our experience, hepatic secondaries have been a larger cause of contra-indication to radical operation in mechanically removable tumors than inoperable glandular metastasis.

By rectal touch the peritoneal sac can be felt anteriorly at the recto-vesical fold. Carcinoma of any viscus in the peritoneal cavity may permit detachment of carcinoma cells which gravitate into the cul-de-sac and graft upon the adjacent sigmoid, giving rise to the characteristic nodules which indicate the nature of the primary and possibly unlocated disease.

Surgical Operations.

Preparation.—Perhaps no factor has proved of greater importance to the human race than the sterilization of food by cooking. While the secretions of the stomach itself outside of the stomach do not have marked bactericidal properties, it should not be forgotten that the digestive power of the living stomach acts to destroy the bulk of the micro-organisms introduced so that the

contents of the duodenum and upper jejunum, as shown by Adami and Cushing are relatively sterile.

The ileum contains a rapidly increasing number of bacteria and the lower two feet teem with virulent organisms. In the colon bacterial growth is marked and adds materially to the bulk of the stool. Hochenegg points out that liquid stool contains very active bacteria, especially the colon type, and therefore catharsis should not immediately precede operation upon the colon. The bowel should be thoroughly emptied 48 hours preceding operation, giving at least 24 hours for the intestine to become quiet. This is also advisable because of the greater ease of dealing mechanically with the bowel if its contents are semi-solid rather than fluid.

Obstruction.—The most important feature of surgery of the large intestine, taken as a whole, is the question of obstruction. The mortality of necessary operations can be closely measured by the degree and acuteness of this condition. It happens, unfortunately, that in some cases of tumor the first important symptom is an attack of acute obstruction. This is particularly true of tumors of the sigmoid where the calibre of the intestine is more limited and the contents of a more solid nature. The obstruction interferes with the vitality of the distended intestine, renders it difficult to obtain proper asepsis during operation, and if resection is decided upon, there may be considerable trouble in uniting the distended to the collapsed segment of bowel. If the condition is acute, the absorbed toxins depress the heart's action and the abdominal distention interferes with the action of the diaphragm; if chronic, the interference with the progress of the food causes indigestion, nausea, gas and abdominal distention. In suspected tumors of the large intestine careful examination should be made to arrive at a diagnosis before the stage of obstruction is reached. In the majority of instances the patient will have had symptoms upon which an early diagnosis of beginning obstruction can be made. There is, first, irregular bowel action, alternating constipation and diarrhoea with an unsatisfied feeling after stool; the movement failing to give complete relief. Second, cramps in the abdomen attended by borborygmus, and the patient will nearly always be able to locate the site of obstruction, as it will be found at the point where the internal pressure is most intense. Third, on palpation the peculiar localized stiffening of the intestinal wall on the proximal side of the stricture gives a "tumor-like feel" to the examining fingers which appears and disappears and is usually accompanied by gurgling of fluids and gases at the point of obstruction. Complete relaxation without anesthesia can usually be obtained in the hot-water bath and a tumor, if present, can be detected. In low-lying tumors the sigmoidoscope may reach the growth. Several times I have found a sigmoid tumor prolapsed into the rectum following a large soapy-water enema, so that it could be felt with the examining finger.

The danger of drowning from the regurgitation of intestinal contents during general anesthesia should not be forgotten and local anesthesia is advisable. By careful attention to emptying the stomach and the use of saline enematas, a great many patients can be tided through a serious attack of obstruction, and the operation performed later under more favorable conditions. In no case should primary resection be practiced during obstruction, but rather should a colostomy be done and the resection or

the two-stage method performed later.

The Incision.—In proposed resection of the large intestine, the incision should be placed to the inner side of the seat of the disease. If the diagnosis has not been established, it is best to make a medium incision through which the hand can be used to explore the abdomen. A second working incision can then be made at the most convenient situation. The utmost care must be taken to prevent infection from intestinal contents. If the proximal gut is greatly distended it will be best to make a temporary incision into it at a point where the mesocolon is sufficiently long to allow its being drawn well out of the abdomen, and with a tube empty the contained material after the method of Monks. Treves states that emptying the distended intestine at a point above the obstruction has reduced the mortality of operations one-half, in acute conditions.

Mobilization.—The most important technical feature is mobilization of the large intestine for purposes of operation. The large intestine has a very long mesentery because all of its blood, nerve, and lymph supply lies in the inner half of the mesentery and arises from the abdominal aorta and vena cava or, in that vicinity. It is true that the outer leaf of the mesentery is exceedingly short, if not absent, in the ascending and descending colon and iliac sigmoid; but as the outer leaf contains no structure of importance it is only necessary to divide it, lift the colon from its bed and swing it on its inner leaf to the midline. Therefore, the *sine qua non* of efficient operation is to locate the lesion, divide the peritoneal reflection to the abdominal wall, which mobilizes the part and allows it to be completely drawn outside the abdomen where it can be adequately surrounded with aseptic pads for clean work. By holding the mesentery up to the light, the blood vessels can be identified in the inner leaf, and caught, tied, and divided. Moyniham shows that in this way even the descending colon may be mobilized so that it can be anastomosed with the rectum or even brought down to the sphincter muscles. The transverse colon can be readily mobilized by dividing the gastrocolic omentum.

In seperating the colon and ligating the blood vessels, there are some structures that must be identified. First, the duodenum, a portion of which is bared in making a proper exposure of the ascending colon and the hepatic flexure. For this reason great pains should be used in the ligation of the right colic and right branches of the middle colic vessels so that the duodenum will not be injured or caught in the teeth of the forceps during operation. Second, the ureters must be identified and separated from adherent growths of the ileocecal coil and ascending colon on the right side, on the left from the descending colon, and especially from the sigmoid. It must not be forgotten that just after the ureters cross the common iliac vessels they are adherent to the peritoneum and that as the colon is mobilized and pushed toward the median line the ureters go with it. Almost invariably the left ureter will be carried with the sigmoid and should be identified and separated before the resection is commenced. Third, the vasa deferentia are closely associated with the lowest sigmoid and rectum, and, while not so important, they should be protected from accidental injury.

The mobilization of the lowest sigmoid is readily effected by incisions along the broad ligament just under the ovaries and tubes in the female, and at the corresponding situation in

the male. These are joined by a transverse incision at the bottom of the Douglas pouch. By identifying and separating the ureters this entire portion of the bowel can be ilfted cleanly from the hollow of the sacrum. The superior rectal artery comes readily with the intestine, but the middle sacral, which is usually present and may be of considerable size, must be caught and tied.

In the removal of malignant growths of the large intestine, it will sometimes be found that a neighboring viscus has become involved and is attached to it. If conditions otherwise are favorable, this should not be looked upon as a contra-indication to operation. We have in such cases resected portions of the small intestines, occasionally resecting two or three entirely independent loops of ileum, and, after completing the resection of the small intestine, we have removed the diseased colon with the of the stomach which were attached Three times we have removed portions ofth e stomach which were attached to tumors of the transverse colon, and five times the bladder has been involved, necessitating partial removal of the bladder wall. One of these cases was very interesting because of the now seven-year recovery of the patient after the removal of a considerable portion of the bladder wall which was attached to and involved in a low-lying sigmoid cancer. Quite frequently in the female the ovaries, tubes and uterus become attached to sigmoid growths, and it adds but little to the difficulties and dangers of the operation to remove these attached organs from before backward in one mass with the original disease.

Method of Anastomosis.—We prefer end-to-end union in the large intestine in one or two stages. In union between the large and small intestines, we have usually made an end-to-side ileum-to-colon type of anastomosis by suture or the Murphy button. If a lateral anastomosis is made, there may be secondary ulceration of the blind end of the small intestine. Ileocolostomy is a safe operation because the contents of the ileum are fluid as compared with the solid or semi-solid character of the matter in the colon. In end-to-end resection of the large intestine it is rather necessary for a safe anastomosis that at least one of the fragments should be well surrounded by peritoneum. In the ascending and descending colon and the iliac sigmoid, the inadequacy of the peritoneal covering may result in fistula formation, a condition which is most troublesome to heal. For this reason, in like cases resection of the sigmoid has a much higher mortality than resection of the cecum.

If there is marked obstruction and distention, the three-stage operation of Mikulicz has much to commend it. At the first operation the tumor, with the mesentery and glands well detached, is drawn out of the wound and the proximal and distal loops united by sutures. The part to be excised is then, if possible, drawn through a separate incision in the abdominal wall of just sufficient size to carry it easily and hold it in good position. The peritoneum is united by a few interrupted sutures to the two limbs of the intestine on the inner aspect. If the symptoms of obstruction are severe, a small incision is made in the exposed mass proximal to the obstruction, and a rubber tube is introduced through which the intestinal contents are carried into a receptacle. The tumor with the attached intestine is cut away on the fifth to seventh day and a heavy clamp applied to the spur on the twelfth to sixteenth day; this bites its way through about six days later, when

the colostomy resulting can be easily closed.

In making resections, one is not always satisfied with the appearance of the bowel union, and fears leakage. We have in several instances fastened the anastomosed part to the peritoneum just underneath the incision, carrying down to it stripe of rubber tissue so that if leakage occurred it could readily make its way to the surface, or the entire anastomosis can be suspended on a roll of rubber tissue in such manner that in a few hours it will become protected by adhesions to the peritoneum at the site of the abdominal wound. Gauze should not be used for this purpose as it becomes entangled in the plastic lymph and is quite often followed by fistula.

In low sigmoid and recto-sigmoid tumors, the tube method of resection described by Balfour is most efficient and safe.

PREVENTIVE MEDICINE AS APPLIED TO CHRONIC PYOGENIC INFECTIONS.

By J. H. Gibbes, M. D., Columbia, S. C.

PREVENTIVE medicine has demonstrated its efficiency in some of the acute infections. It may be said that the prevention of this class of ailment found its being in the empiricism of Jenner in 1796 when he appropriated for Medicine the popular opinion concerning the protection afforded by infection with the mild cowpox against subsequent attack by the virulent smallpox. But the science of preventive medicine was inaugurated by the immunological and bacteriological studies of Pasteur, for here was conceived the doctrine of specificity of certain diseases, their dependence upon specific, living organism, and the possibility of destroying such organisms or of stimulating an active immunity in a prospective host. It is scarcely necessary to call attention to the products of these original investigations: smallpox has been all but eradicated, human rabies is reduced to a bare potentiality, innumerable cases of tetanus have been forestalled, the incidence of diptheria has been greatly reduced, and most of us may yet live to see typhoid fever a rarity.

In protozoal diseases we have equal triumphs to record. The shrewd observations of Laveran and the painstaking studies of Ross and others have shown us the means of preventing malaria, and it is not too much to hope that this scourge of man may ultimately disappear. And, whatever the causative agent of yellow fever, the intermediary host of the infecting parasite has been demonstrated by the scientific and heroic efforts of our fellow-countrymen, and we are now all but free of its ravages.

Curative medicine cannot present such a brilliant picture. To the ancient specifics, mercury and quinine, we now have added salvarsan, as an adjuvant to the former, Thyroid extract, and a few specific sera. On the other hand, the futility of our efforts at cure is too often depressingly apparent. Certainly this is true of the great part of the cases that come to the attention of us all. Eliminating for the moment acute infections, how hopeless do we feel when confronted by organic changes in tissues: where is the sovereign remedy for chronic nephritis, with what success may we handle myocardial breaks, and with what good grace can we approach an ankylosing arthritis? Palliation may be our reward, but restoration never!

In recent years increasing knowledge of chronic pyogenic infections in their relation to organic changes in visceral tissues has brought a brighten-

Read before the 8th District Medical Association, Jan. 13, 1916, Johnston, S. C.

ing hope of preventing these very conditions whose existence is so terrible to us. The subject of arthritis is even now on a relatively firm foundation. Koch's law has practically been fulfilled in that micro-organisms have been recovered from the infected joints, they have been grown outside of the body, and the disease has been reproduced by the introduction of the organisms into animals. The profession has not been slow to avail themselves of this knowledge, and there are now few physicians who cannot relate cases from their practice in which an apparently hopeless arthritis had its progress stayed upon the removal of a focal infection. But the time has come when advanced infectious arthritis should be ascribed to the faulty knowledge of a medical past. We are now in a position to apply preventive medicine to this type of joint disease, and our failure of success in this respect must imply an inadequecy of our investigations or treatment or an unwillingness to cooperate on the part of our patient.

Among those diseases which we may now view with something of this assurance may be mentioned:

1. Infectious Arthritis. We may look with satisfaction upon the enlightened view which is now held by both the public and the profession concerning this form of malady. The arthritic manifestations which result from chronic focal infections may be of acute or chronic character. In the more acute conditions, prompt alleviation frequently follows the discovery and removal of the causative source of infection, and some of our most striking therapeutical results are seen in these cases. In fact, the result of such treatment may be taken as the criterion of correctness of the etiological diagnosis. If the signs of general and local infection persist after, for example, the removal of suspected tonsils, one may rest assured that the focal infection which is responsible for the trouble is still to be discovered. It is important that we realize this fact in connection with such cases, and be willing to continue our investigations rather than be discouraged by an apparent failure. In chronic infections arthritis the results are seldom immediately brilliant. Here the tissue changes are often so far advanced that the removal of an active process may seem for a time to utterly fail in the alleviation of symptoms, and the patience of doctor and patient may be sorely tried in the long period of non-progress. I have in mind the case of a woman, 42 years of age, who dated the onset of her arthritic symptoms 8 years prior to the time that I first saw her. Almost every joint in her body showed signs of a deforming arthritis. For one year she had been unable to walk because of the condition of her knees. These joints were swollen, red, and tender, and the synovial membranes were distended with huge quantities of fluid. Investigations failed to disclose other sources of infection than an extensive prorrhoea, numerous apical abscesses about the teeth, and a small pus pocket between the faucal pillars on the right side of the throat. All of her teeth were removed, and the throat infection cleaned up. For six months the patient derived no perceptible benefit. I then lost sight of her. Three months later the patient advised me that the swelling and pain in her knees were subsiding, and one month later she was able to walk a short distance without the aid of a stick. While in Baltimore during the earlier part of the summer, one of my friends at the Johns Hopkins told me of a similar case of a man who had disappeared after several months of seemingly futile treatment only to make his appearance three years later with almost

complete restoration of joint function. But why should such deplorable conditions exist? With the store of valuable information at our disposal, and the modern facilities of diagnosis, we should be able to institute radical treatment at a time prior to the development of deformity, and in this sense apply preventive medicine for the benefit of our arthritic patients. Is it too much to hope that the coming years may see a disappearance of the pokerspine and other manifestations of a neglected infectious arthritis?

2. Infectious Endocarditis.—In this category one may be concerned with a variety of anatomical conditions as well as with many different types of infecting organisms. Gonorrhoel endocarditis and endocarditis lenta are striking examples that come to our attention. But I wish to lay especial stress upon the so-called rheumatic endocarditis, because of its frequent occurrence, its definitely established etiology, and its definite indications for treatment. The vast majority of the cases of acute rheumatic fever and of Sydemham's chorea occur in childhood or in early adult life, and are almost invariably traceable to infection of the tonsils. A concomitant of this "rheumatic cycle" is a vegetative endocarditis which finally results in a thickening and deformity of the heart valves. Once these valves are diseased, they are more susceptible to subsequent invasions of infecting organisms, and as long as infected tonsils remain they are the source of untold potential danger to the endocardium. Mitral stenosis or insufficiency, often discovered in the routine examination of a young person, who may be perfectly unaware of a cardiac lesion, should cause us to look with careful scrutiny into the condition of the tonsils, and, in the presence of infection, to advise their removal if on no other grounds than that of prophylaxis. At the same time careful search should be made for other portals of entry for micro-organisms. By observing such methods we may yield to our patients benefits of which they may forever remain unconscious, but we shall derive for ourselves the pleasure and satisfaction of logical thought and scientific therapeusis.

3. Gastro-Intestinal Disturbances.—The relation of chronic pyogenic infections to distubances in this part of the body is still more or less hypothetical in many of its aspects, but there are certain features which are definite and well understood. For the sake of brevity I shall confine myself to the consideration of the stomach, the gallbladder and the appendix.

a. The Stomach. This organ seems to be peculiarly susceptible to influences exerted from other parts of the body, often acutely reflecting the general condition of a patient. Witness the gastric disturbances seen in acute infectious diseases, the troublesome digestive disorders encountered in pulmonary tuberculosis, and the host of stomach symptoms that are seen as accompanyments of the so-called neuraesthenic or functional states. The influences directly referable to chronic pyogenic infections may be broadly divided into two groups:

I. Direct irritation.

II. Reflex irritations.

The direct irritations of the stomach by pus infections follows upon the swallowing of infected material from the head or throat. Faber has made an exhaustive post mortem study of the anatomical condition of the stomach wall in cases of hyperacidity and and in cases of anacidity. In the former condition he has found unmistakable evidence of a chronic irritative process which he has traced through all grades of development to the atrophic condition of the gastric

mucosa which he found to represent the functional state of anacidity. He concludes that hyperacidity is but the first expression of an irritating influence the continuation of which will ultimately lead to the anatomical changes that destroy the acid forming function of the stomach. In pyorrhoea alveolaris, open infections of the tonsils, and infections in the sinuses of the skull that may pour their filthy secretions into the postnasal space, we see the optimum conditions for the direct entrance of infected material into the stomach. It is not conceivable that this material can remain there passive, without an irritating and deleterious effect upon the structure and function of this organ. All of us are familiar with the gastro-enteritis following "septic sore throats," and other forms of acute tonsilitis, and with the seriously incapacitating malady, abdominal influenza. When we realize that acute infections produce these effects upon the organ under discussion why not face the fact that chronic infections travel through the same channels? Such infections, or their toxins, may find entrance to the stomach through one of two avenues, the blood stream or through deglutition. Suffice it to say that in the great majority of cases of chronic infections about the head there is abundant opportunity for direct infections and irritation of the stomach wall.

The reflex irritations of the stomach are seen chiefly in chronic disease of the gall-bladder and the appendix. This irritation may be so acute as to obscure completely the exciting focus of infection, and lead to a diagnosis of disease in the stomach per se. In younger people gastric ulcer is not infrequently suspected, while in older patients, presenting the end stage of anacidity, carcinoma comes most prominently to mind. So closely do chronic infections in these localities simulate the conditions mentioned that I have known them to baffle all efforts at a differential diagnosis. In the simplest cases one can often reach an intelligent opinion only after the employment of all known methods of examination, including bismuth X-Rays of the gastro-intestinal tract.

In view of this definite relationship of cause and effect, it is scarcely necessary to call attention to the possibility of preventing advanced disturbances of gastric function and structure through the medium of chronic infections by the early recognition of their causal connection with mild gastric symptoms and their prompt eradication.

b. The Gall-Bladder and the Appendix.—The existence of chronic infections in these localities is well understood. But the origin of these infections is not so clear. We know that the colon bacillus, the typhoid bacillus, and streptococci are often the infecting agents. But how did they gain access to the parts under discussion? Did they reach their final resting place thro the round about way of the blood stream, or did they take the more direct routes from intestine to appendix and from the duodenum via the bile ducts? Rosenow is of the opinion that the former is most likely true. He has isolated streptococci which seem to possess remarkably specific affinity for certain tissue, and among these he tells us that he has found an organism which, when injected into the blood stream of animals, will produce with remarkable regularity an infection of the appendix. It is possible that both of the routes mentioned may be employed by these organisms in reaching their final destination, but it is my opinion, based upon clinical observation, that direct infection from head to intestinal tract and finally to gall-bladder or appendix

is by far the more common. The lining of the gastro-intestinal tract is relatively impermeable to bacteria. But in the appendix and gall-bladder blind pouches are furnished for the incubation and growth of micro-organism, and the conditions are much more favorable for their finding a foot-hold and focus. In this connection it is important to call attention to the frequent combination of disease in gall-bladder and appendix, as one might expect when considering the passage of infected material from the draining infections about the head, first by the orifice of the gall-ducts and subsequently by the mouth of the appendix. I have seen a number of cases in which the digestive symptoms had been explained upon the basis of a definite chronic appendicitis, the appendix removed, and the digestive symptoms continue. Further investigation disclosed a chronic cholecystitis, and drainage of the gall-bladder was followed by complete symptomatic relief. So often has this happened that I always insist upon the exploration of both organs when the drainage or removal of the one is undertaken.

Here again we see great opportunities for preventive medicine. By early recognition of and attention to infections of the teeth, tonsils, and sinuses of the skull, we may forestall functional and anatomical derangements of the stomach, and we may prevent infections of the gall-bladder and the appendix in large part. Where disease of the latter organs exist, proper attention to them may check the accompanying gastric disorders with their deleterious effect upon the patient's general well-being.

4. Fourthly, I wish to mention in passing that a certain amount of convincing evidence has been accumulated to show the bearing of these chronic infections upon disorders of the kidneys, the blood vessels and the ductless glands. Certainly an interesting relationship exists between chronic cholecystitis and an interstitial inflammation of the pancreas. This should not be unexpected when we consider the proximity and frequent continuity of the biliary and pancreatic ducts. To just what extent preventive medicine, in this sense, may be applied to chronic nephritis, chronic interstitial pancreatitis, and arteriosclerosis, is entirely problematical. But it is a possibility that clinicians should constantly bear in mind, about which they should studiously collect data, and of which they might even now avail themselves in an attempt to forestall the development of organic changes in the tissues under discussion.

The Organisms Concerned in Chronic Pyogenic Infections.—Most prominent among these organisms are: the various groups of streptococci, staphylococci, the gonnococcus, the pneumococci, and the bacteria belonging to the disputed ground of streptococcus and pneumococcus. In the chronic infections of the gastro-intestinal tract, we frequently have to deal with bacteria of the colon bacillus or typhoid bacillus groups.

I wish to call to your attention the fact that bacteriological studies have shown the familiar group of streptococci to vary to a remarkable degree in their morphological and cultural characteristics. These organisms have also been shown to undergo material transformation through simple transplantation to different culture media and by passage through different animals. It is quite possible that each streptococcus, growing upon living tissue, under its own peculiar conditions, differs from any other member of this group. Rosenow has advanced some basis for the belief that the streptococcus producing the inflammation in infected joints has been modi-

fied by its new habitat and pabulum ism that was transferred there through the blood stream from the focal infection, say in the tonsils. If this idea be correct, an autogenous vaccine made from the organisms obtained from incised or excised tonsils may not be a truly specific vaccine for the bacteria present in the joint tissues. Of course this high degree of differentiation of streptococci renders unscientific the use of stock vaccines in the treatment of such maladies as infectious arthritis.

The Sites of Chronic Pyogenic Infections.—I shall do no more than briefly enumerate the localities in which the pyogenic organisms most frequently find lodgement and suitable conditions for development.

They are:

1.The teeth. The chronic infection here may involve the peridental structures in the form of pyorrhoea, or the dental structures themselves as carious teeth or apical abscesses.

2. The tonsils.
3. The accessory sinuses of the skull.
4. The gall-bladder.
5. The appendix.
6. The genital organs.
   a. In the male the prostrate and the seminal vesticles are of prime importance.
   b. In the female the Fallopian tubes, the parametric structures and Bartholin's glands are the most common harbors of these micro-organisms.

A Broad Classification of Chronic Pyogenic Infections.—During the past two years careful observation and investigation of a variety of clinical pictures which were more or less definitely referable to the chronic infections above described have led me for praccal purposes to regard these infections as separable into two broad groups, namely:

1. Those which drain freely.

so as to differ from the original organ-

2. Those which do not drain freely and in which the bacteria and their products are removed largely through the medium of the blood stream.

The clinical importance of this classification is most clearly understood when considered with reference to the chronic infection in the mouth, the upper air passages and the throat. In pyorrhoea (i. e. the superficial, serous, variety), open pus pockets in the tonsils, and in post nasal drippings from infected sinuses, the natural avenue of escape for the infected material is into the stomach and so into the intestinal tract. In keeping with this is the prominence of gastro-intestinal symptoms presented by patients suffering with this type of chronic pyogenic infections. I have now a considerable number of cases which lead me to the belief that a great percentage of the so-called functional disorders of the stomach as well as a great many acute and chronic inflammations of the gall-bladder and the appendix find their origin in **draining** infections about the head.

On the other hand, the closed, or non-draining cases, are those in which the conditions are most favorable for the absorption and dispersion of the infection through the blood channels. My own limited experience bears out this possibility as an actual clinical fact. In infectious arthritis we have most frequently found blind abscesses in the substance of the tonsils, and apical abscesses at the roots of the teeth. This is likewise true of the endocarditic lesions that we have been able to refer to chronic infections.

I do not mean to infer that this classification is an ironclad one to which there are no exceptions, for we all realize that an infection may be partially draining and partially non-draining. In such instances both sets of general disorders may be expected,

and are in reality found. But I do feel that the above grouping will prove a valuable aid in interpreting many of the conditions which we encounter, and must aid us in discovering the focus of infection which is responsible for these conditions.

Diagnostic Means Applicable to Determining the Sites of Chronic Infections.—The determination of the site of the chronic focal infection responsible for one of the systematic disorders considered above is at times a relatively simple matter, but is most often a problem of considerable difficulty, the solution of which depends upon systematic exclusion. As is true of most conditions, the first requisite to differential diagnosis here is the taking of a careful history. Acute attacks of tonsilitis in child-hood, chorea, and acute rheumatic fever should be enquired into. Pains about the head and face may direct our thoughts toward the sinuses of the skull or the teeth. Post nasal drippings, evidences of nasal obstruction, and repeated "colds in the head" are other features of the history that might point in this direction. A more general symptom, and one to which I have learned to ascribe considerable importance as indicating the swallowing of infected material from about the head, is mild nausea, usually complained of upon rising in the morning.

The history of digestive disturbances, pains in the regions of the appendix and gall-bladder, jaundice, and alternating constipation and diarrhoea are leads that should cause us to employ every means for investigating the gall-bladder and the appendix.

In the male, the history of a gonorrhoeal infection is most often easily obtained. In the female, miscarriages in the early months of pregnancy, leucorrhoea, dysmennorrhoea coming on after marriage, and the complaint of discomfort in the hypogastrium are frequently indications of pelvic inflammatory disease.

The importance attached to proper history taking cannot be over-estimated. As has been properly said, almost anyone can make a more or less efficient physical examination, but it is a real test of one's knowledge of medicine to take an accurate and intelligent history.

I shall take up briefly each of the common sites of chronic infections, and the most effective means at our disposal of determining the existence of disease in them.

1. The Teeth.

a. **Inspection** may show us a wonderful degree of oral sepsis. By this means we may determine the presence of pyorrhoea, carious teeth, and blind or draining abscesses in the substance of the gums.

b. **Palpitation** will enable us to confirm the findings of inspection, and not infrequently we are enabled to discover tender teeth or to express pus from small gingival abscesses.

c. **X-Ray Examinations** are of the greatest importance. Through their aid we may disclose abscesses at the apices of the teeth or disease in the alveolar processes themselves.

2. The Tonsils.

a. **Inspection** is often of great help here also, but too much dependence cannot be placed upon negative findings by this means. The surface of the tonsil may present minor evidences of disease, while in reality the substance of the gland is the seat of extensive inflammation.

b. **The tonsil curette** is indispensable in discovering pus in the tonsil crypts. With this little instrument the flours of infected crypts and pus-pocket may be explored, and it is often possible to demonstrate the existence of disease in a tonsil which presents no sur-

face evidences of disease. I am indebted to Dr. E. M. Whaley of Columbia for an introduction to this invaluable little instrument.

3. The Sinuses of the Skull.

a. **The Previous History and present symptoms** are of great importance in connection with infections in these localities.

b. X-Ray examinations represent the greatest single aid.

c. **Transillumination** is chiefly applicable to infections of the antra and the frontal sinuses.

4. The Gall-bladder and the Appendix.

a. **History.**

b. **Physical examination.**

c. **X-Ray examinations of the gastro-intestinal-tract** by means of the bismuth or barium meal. Time does not permit of a description of the types of stomach pictures seen in chronic infection of the gall-bladder and the appendix, but suffice it to say that the roentgenologists have determined a definite modification of gastric form and function which is dependant upon extra gastric causes.

5. The Prostate Gland.

a. **Digital examination** per rectum enables us at once to discover gross pathological changes in the prostate and seminal vesicles.

b. **Microscopic examination** of the material expressed from the prostate will determine the modification of the normal elements, the presence of pus, bacteria and their type, and the existence or non-existence of living spermatozoa.

6. As a general examination one should not lose sight of the importance of blood studies. A total and differential leucocyte count will often prove of material assistance in the investigation of these chronic infections.

In conclusion, I wish to reiterate that we now have an abundance of clinical and bacteriological evidence to demonstrate the etiological role of chronic pyogenic infections in a number of systemic disorders; that the early recognition and removal of these sources of infection may prevent the development of conditions for which we have no effective therapy, and that the diagnostic means are at our disposal to put this preventive medicine into effective execution.

THE TREATMENT OF DIABETES MELLITUS.

By W. H. Powe, Greenville, S. C.

A CONSIDERATION of the best way to manage our cases of Diabetes is of special interest at this time, for we all know that the mortality from this disease is rapidly increasing. The experience of France is probably just about that of our own country. In that country in 1880 there were 6.4 deaths from diabetes per hundred thousand population, and there has been an almost steady rise until 1910 the mortality was 19.3 per hundred thousand. Along with this incease, and quite possibly having some causative relation to it, is the fact that the use of sugar in the common dietary of this country has increased about nine pounds per capita per annum in 1822 to seventy-six pounds in 1906. This may explain some of the increase in frequency of diabetes, but the strenuous nature of modern life, with the constant hurry at everything we attempt will probably be a better explanation. It is a fact that the number of diabetics among the leisure classes is out of all proportion to their percentage of population.

Some may contend that the reported increase in deaths from diabetes is

Read before the Greenville County Medical Society, 1916.

due to improved methods of diagnosis, but as a matter of fact the methods have changed very, very little in the past half-century, and this explanation will not account for it.

Any plan of treatment, to be rational, must take the etiology of the disease into consideration. Until recently we have been almost completely in the dark as to the cause of diabetes, but recent studies conducted by Dr. F. M. Allen, and others, at the Rockefeller Institute for Medical Research, have gone far toward a satisfactory explanation of the disease. We can now treat this condition with the assurance that we are getting at it from the proper angle, and we know that practically all diabetics can be cured, or markedly benefitted. The treatment is satisfactory, and practically perfect.

The whole treatment rests on the theory—which was proved clinically and experimentally—that the one essential cause of diabetes is the failure of the Pancreas to supply an internal secretion of unknown nature. Time is too short this evening for us to go into all the details of the experiments performed, but that fact was established beyond question. It was also proved abundantly that the ingestion of carbohydrates and of fats stimulates the elaboration of this internal secretion, and if this function of the organ should become exhausted by excessive use or stimulation it could be restored by giving the pancreatic cells a complete rest, i. e. by total abstinence from food of all kinds. The idea in this treatment is that diabetes is caused by the exhaustion of these cells in the pancreas whose function it is to elaborate an internal secretion which is essential to the utilization of sugars in the economy. Hence the treatment consists in giving these cells a complete physiological rest, and allowing them to recover from their exhausted state so that they can again perform their necessary function. It is proved that fats, as well as sugars, act as stimulants to these cells, and the only way to completely rest them is by fasting absolutely. Up to the present time the feeding of fats has been forced in diabetes. We know now that this is wrong, and a prolific cause of Acidosis.

Since an excess of sugar in the blood is always associated with its presence in the urine, its presence constantly in the urine under normal conditions is accepted as proof of diabetes. When the urine becomes free of sugar, we assume that the percentage of sugar in the blood is not excessively high, and if it remains free of sugar, and if the other symptoms of the disease all disappear, the conclusion is that the patient is cured.

In view of the fact that diabetes is due to an exhaustion of the pancreatic function, the aim of the Allen treatment of the disease is three-fold:

First. To keep the sugar content of the blood down to normal, and the urine sugar-free.

Second. To avoid Acidosis.

Third. To restrain metabolism sufficiently to take all unnecessary work off of a diseased or exhausted pancreas, by reducing the body weight, and keeping it down below the previous average.

Essentially this consists in absolute abstinence from all foods until sugar disappears from the urine. The patient is put to bed and kept there until sugar-free. In most cases forty-eight hours will suffice for this. Some clear up in twenty-four hours, but in extreme cases five days may be necessary. In a large series of cases, many of them being severe, no case failed to clear up within five days. We have had a case passing over twenty-one ounces of sugar in twenty-four hours,

and he cleared up entirely in two days. Besides this case we have seen four others, in the past few weeks, and all of them cleared up with less than two days fast.

The urine is examined for sugar each day, and as soon as it is clear the patient is allowed a small quantity of vegetables that have not more than 5% carbohydrates. We have a good variety of these, including lettuce, spinach, sauer-kraut, string beans, celery, asparagus, cucumbers, kale, tomatoes, egg-plant, pumpkin, and grape fruit, if this can be called a vegetable. These must be taken raw, or if cooked they must not be cooked with fat of any kind. The quantity allowed is gradually increased, and if no sugar appears in the urine within a week, the patient is allowed some 10% vegetables, among which are onions, turnips, squash, okra, carrots and beets. Next, 15% vegetables are allowed, green peas, artichokes, parsley, etc., then 20% potatoes, beans, green corn, rice and macaroni. Often under this treatment sugar will reappear in the urine. When this occurs the patient is returned to bed, and starved for twenty-four hours, and begins all over again. Some difficulty is experienced in getting patients in private practice to appreciate the gravity of the disease, which so often has no seriously uncomfortable symptoms. Great tact and patience is necessary to manage these hungry men, but if they can be impressed with the danger of serious consequences they can be restrained from breaking the diet rules.

There is one serious danger connected with this regime—that is Acidosis—which is caused by carbohydrate starvation in about 10% of the cases treated in this way. Acidosis does not mean an acid condition of the blood for that would be incompatible with life and is a condition never present in life, but it is a state in which the normal alkilinity of the blood is seriously reduced. If it is not promptly corrected the clinical symptoms of Acidosis supervene, among which are restlessness, nausea, etc., passing on to coma, and often terminating in death. In most cases Acidosis can be determined by competent urinalysis, but an examination to determine the bicarbonate content of the blood is the only sure guide. Every laboratory should be equipped to do this very necessary examination, for unless it is done a certain number of unexpected fatalities will occur. So long as excretion keeps pace with acid formation urinary tests are satisfactory, but when excretion of metabolic waste products is inadequate, acid will accumulate in the blood and tend to neutralize its alkilinity, and the urine may not reveal the true state of affairs in the blood. Tests of the urine are valuable only for the exeecetery phase of the Acidosis. They give no indext to the accumulation in the blood, and hence may be misleading.

If accidents threatens during the fast, the patient must be allowed alcohol in small quantities every few hours, and if this does not correct it a little carbohydrate must be administered until the danger passes. In a series of cases recently reported, several developed acidosis, and all were fed until the acidosis cleared up, then the fast was resumed. In no case was it necessary to again go back to feeding.

Diabetes in very young children is usually due to a congenital deficiency of the pancreas, and is practically always fatal. In them the treatment does not differ materially from that of adults. Special care must be taken to guard against acidosis, to which these little patients are especially predisposed.

The annoying and often dangerous

complications of Diabetes are treated symptomatically until the underlying cause can be removed. If any complication calls for operation. Diabetes is not now regarded as a great obstacle to its performance. Patients must be watched a long time, and an occasionally "fast day" is morally and physically beneficial. Intelligent patients must be made to understand the pathology of the disease, and taught to led less strenuous lives. It is hard to treat cases that have relapsed, and it is easy to prevent it. In all cases the confidence of the patients is absolutely necessary, but that, with proper care on the part of the physician, will result in an absolute cure in practically all cases of this heretofore most disheartening symptom complex.

TREATMENT OF INOPERABLE UTERINE CANCER.

By A. E. Bake, M. D., Charleston, S. C.
Professor of Clinical Gynecology and Abdominal Surgery, Medical College State of South Carolina.

UNTIL recently a patient suffering from inoperable uterine cancer was doomed to intense pain and finally death—with the lingering hope that even comes to a criminal, the possibility of life sentence being commuted:—no specific therapeutic measures exist, whereby one single ray of hope can be offered therefore, we must look to surgery to loosen the shackles of this mortal grip. In the last two years surgery has made wonderful strides in opening up an avenue through which a large percentage of those doomed cases can be cured or greatly relieved—the disease held in check, life prolonged and made more comfortable.

Read before the South Carolina Medical Association, Charleston, S. C., April 20, 1916.

About twenty years ago Dr. John Byrne, of Brooklyn, advanced the theory that cancer cells can be killed by heat without the entire destruction of the tissue in which they are located as an explanation of the favorable results obtained by him in the treatment of carcinoma of the cervix with the cautery. The same explanation is probably the correct one for the beneficial effects of the radio-active substances that are being used at the present time in the treatment of malignant growths.

Byrne's limited success in applying heat to kill cancer cells evidently gave Percy the inspiration, which led him to work out the scientific problem of applying heat for the purpose of destroying cancer cells, and at the same time not injuring normal tissue. The method which he outlines depends for its effectiveness upon the fact that carcinoma is destroyed when the temperature in the mass is raised 113 degrees F. on the other hand, normal tissue cells are not affected until the temperature rises from 132 degrees to 140 degrees F.

He emphasizes this because many surgeons have the idea that it is necessary to produce a degree of heat sufficient to burn up the part involved. This defeats the purpose of the treatment which for its effectiveness depends upon the production of a low degree of heat, and not of fire, in other words, coagulation and not carbonization of the tissues involved is the effect desired.

His experimental work has shown two important facts: that this low degree of heat has greater penetrating power, as far as distance is concerned, and that the high degrees of heat, producing a charcoal condition, permits only a surprisingly limited dissemination of heat—when applied correctly heat will kill cancer cells

two to three inches in thickness of tissue.

He also advises that when all the pelvic structures are fixed by the cancer involvment, the heat should be applied until everything is freely movable as they are normally. This is an exceedingly important point. Again he says that it is utterly impossible to apply heat to the pelvic organs for the purpose of destroying cancer in the effective way without opening the abdomen. With the abdomen open, the surgeon is at once made acquainted with the problem before him, more than this, he knows what degree of heat he is using, and more important than all else, he feels or sees just where to apply the heat, and to ascertain the quantity of heat in the tissue. The three most important factors in the technique: FIRST:—A low degree of heat. SECOND:—the heating iron must not be moved about, in other words must be retained in one position until that part of the malignant mass has been thoroughly heated for at least ten minutes, when it can be moved into a new location, and the process repeated. THIRD:—the heat must be applied until all the malignant, fixed pelvic structures are freely movable.

It often takes an hour in application of heat to obtain desired results. It is very necessary to have a cautery of sufficient size and power not only to destroy the cancerous tissue, but also to radiate heat into the adjacent tissue. The electric cautery is the best, as the heat from it is more constant and controllable. The ordinary Paquelin cautery is not of sufficient size to give proper heat, and the cautery irons similar to those used by plumbers, the heat is not constant, it cannot be applied scientifically.

Percy has advised a most ingenious outfit for the application of a low degree of heat, which consist of a rheostat, electrodes, water-cooled speculum and thermometer to indicate the heat in the tissues. We have been using these applicances in our work, but lapse of time is not sufficient to make report on results obtained—a detailed history of cases with ultimate results will be published later.

When a high degree of heat was used—that is, in the old method, late hemorrhages were practically unknown, but since the use of the low degree of heat, which exert only a coagulating effect on the tissues involved, hemorrhages have become more frequent. It is advisable, therefore, while in the abdomen to ligate both internal iliac arteries. If this is difficult to do, then the uterine arteries should be ligated. Also remove both ovaries, which limits blood supply, as well as brings on menopause. These secondary hemorrhages come on late, as a rule, about two weeks following the application of heat. They occurred in about two and a half per cent. of cases treated—death resulting from hemorrhage. It was these deaths that necessitated tying the internal iliac as an important part of the treatment. Since this procedure has been adopted no cases of hemorrhage have been reported.

The experience of those who are getting the best results advise the two stage operations—First: the application of heat after Percy's method, which often converts the so-called inoperable case into an operable one, then in two or three months do the radical operation—a complete hysterectomy, providing the patient is a good surgical risk.

Dr. Balfour states "that it is interesting to note that in sixteen cases operated on by the Percy method in our clinic, only in three cases cancer cells were found by microscopic ex-

amination, in the remaining thirteen cases found no evidence of the original disease."

Percy mentions that in the utterly hopeless type of advanced cases ninety per cent. are operable by **the application of heat. This is especially true,** if there are no secondary degenerative changes in the kidneys, liver and heart. The disappearance of hemorrhage, foul discharge and constant pain, brings hope that life will be prolonged in comfort, and again the resulting physical and nutritional improvement of patient, following the application of heat, permits the use of massive doses of X-Ray from the Coolidge tube for attacking the small points of Metatases that may exist along the iliacs and ureters, also the rectum and vagina.

It may safely be predicted that the treatment of cancer, by low degrees of heat to be followed, in the advanced cases, with massive doses of X-Ray delivered through the medium of the Coolidge tube, is to prove, as soon as its merits are understood and appreciated, the greatest advance, so far reached in the treatment of early and late cancer.

Summary: 1st.—"Open the abdomen—only by doing this can uterine cancer be safely and most effectively treated by the application of heat."

2nd.—Use a low degree of heat. If a cauterizing temperature is used a carbon crust is formed in the cancer mass, which prevents the dissemination of heat.

3rd.—Apply the heat until all the structures that were fixed at the beginning of the application are freely movable. To do less than this must, of necessity, defeat the object of the treatment. This cannot be done in all cases, but it can be in the majority of cases.

4th.—In the more advanced stages of the disease, if the patient is a good surgical risk, the two-stage operation should be done, that is, the Percy method of tissue coagulation by **heat,** followed **after some weeks by total abdominal hysterectomy.** If the patient is a poor surgical risk only the Percy method should be applied.

PRACTICAL SUGGESTIONS IN INFANT FEEDING FOR THE GENERAL PRACTITIONER.

William P. Cornell, Charleston, S. C.

IN our efforts to attract immigration to our State and City we point with pride to our natural endowments of climate, soil and harbor, and our accomplishments along commercial lines, but we keep silent upon health matters. This is either from ignorance or because it would obviously be unwise to state the facts. I believe it is from ignorance and deplore its existence, not only because it impedes progress, but because it leaves us in the regretable state of the ostrich, that not seeing, believes there is nothing to see.

New families will not come into a locality where the death-rate in children is unnecessarily high.

The first great desire, and underlying aim in the endeavor of all conscientious married men's lives is their family's welfare.

The very type of men we want are wise, and look before they leap, and in contemplating a change of residence investigate the health conditions of the locality under consideration.

Inquiry at Washington will elicit the following unfavorable comparative information regarding our State and principal city.

Read before the South Carolina Medical Association, April 19, 1916, Charleston, S. C.

The following figures are taken from Mortality Statistics, Bureau of Census, 1913, and includes all deaths (exclusive of still-births) in the registration area of that year. Also the population, and the death rates per thousand population for all ages, and below five years of age.

Place	Population	All Deaths	D-R, State (1000 Pop)	D-R, City. (1000 Pop)	D-R. City under 5 Yr. (Per 1000 Pop)
U. S.	63,298,718	890,848	14.1		225.129. 3.5
New York	5,198,000		14.8	14.3	20,926. 4.
San Francisco	440,000		14.5	15.9	911. 2.
New Haven	141,000		15.3	15.9	543. 3.8
Jacksonville	67,000		17.7	19.2	260. 3.8
Memphis	140,000		19.	20.	477. 3.4
Galveston	39,000		23.	18.	109. 2.7
Philadelphia	1,631,000		15.	15.	6,529. 4.
Cleveland	622,000		15.	16.	2,838. 4.5
Charlotte	37,000		19.4	16.	172. 4.6
Charleston	59,000		27.(?)	27.	473. 8.
Atlanta	173,000		19.6	17.4	727. 4.2

Average 10 States other than S. C. 18.74.
Average 10 Cities other than Charleston 16.7.

There being slight variance between City rate, and State rate, with only a slight increase in city over State rate, I believe it fair to judge our State rate by that of its chief city, 27 deaths per 1000 population.

This shows that our State's position is at the bottom of the health column.

If the above unfavorable condition of affairs still exists it is necessary that we should all know of it, and it is certainly up to us, as the only group of men to whom the public looks for protection in such matters, to rectify matters.

Do new communities, which spring up in the west, and continue to flourish, do so because of their recognition of, and more serious attention to matters pertaining to community health?

It is said that the state of health in a community is an index of the Medical Fraternity's enlightenment of the public, and that an unhealthy community indicates an ignorant or negligent Fraternity. Shall we allow such an indictment to be made out against us?

Further study of the above statistics reveals the startling fact that one-fourth of all deaths occur under the age of five years, and other investigation shows that sixty per cent. of these deaths are from disturbances of the gastro-intestinal tract, or 133,627 deaths per year in the country's registration area. Approximately 15% of all deaths.

Is not a discussion of this class of diseases as worthy of attention as any of the advances made in the treatment of simple diseases, or operative procedures, that are so exhaustively discussed at all medical meetings?

A correct diet, upon which the present, and particularly the future, welfare of the young depends, should be well balanced, that is, consist of all the elements of nutrition, which means that there should be present fats, sugar, proteid and salts in balanced proportions.

A deficiency or excess of any element will lead to nutritional upset sooner or later, of the acute or chronic type.

We must remember that all cereals, crackers, breads, potatoes, etc., must later be converted into sugar in the intestines before it can be absorbed and metabolized, and so it is obviously wrong to add cereals to the diet of a child that has been fed on condensed milk, or one of the proprietary sugar-foods, and expect it to thrive. It lacked proteid and fat before while on the condensed milk, and it lacks them still.

We have all seen children successfully raised on condensed milk, but we also know that that fatal form of wasting popularly called Marasmus is, in the great majority of cases, seen in children who have been fed on this same condensed milk, or one of the other so-called Baby-foods. They practically all, when prepared according to the printed instructions, are totally unbalanced foods, lacking proteids and fats in proper proportions, and they are unfit, and should not be used unintelligently or exclusively.

If we ever get a Federal Bureau of Health which would require that the instructions given out with these foods set forth that they must be properly combined with cow's milk, so as to properly balance with proteid and fat, many future citizens of the country, now ruthlessly allowed to die, would be conserved The Government is doing good work against the fake medicine, but it could do far more by forcing the baby-food vendors to encourage the use of milk, instead of trying to supplant it as they do with their sugar-foods.

All we can do as individual protectors of the public health is to educate our patients in this matter. We should point out that Horlicks, Mellin's, Dextri-Maltose and Loeflund's Malt Soup are malt sugars; that condensed milk is cane sugar; that Eskay's, Nestles and Imperial Granum are mixtures of sugar and starch; that Panapeptone, Liquid Peptonoids, etc., are alcohols, with a little proteid, and that in order to give sufficient to nourish the baby would produce death from alcohol poisoning. That beef-juice is only one-seventh as nourishing as cow's milk; and that the animal broths, as usually prepared, have no nutritional value; likewise the popular egg-water, it being only one-twentieth as nourishing as cow's milk. Barley-water is another valueless concoction from the nutritional standpoint.

You may well ask then, what is left for the baby, when all these commonly used things are excluded?

Cow's milk, sugar, cereals, bread, butter, and the proprietary sugars (or foods) furnish everything necessary to life from birth till the end of the second year when the iron-rich vegetables as beets, carrots, spinach and asparagus, and finely chopped meat, will gradually replace, and the food of the soups may be left in and given.

Cow's milk must be the mainstay during the first two years. It may be dangerous from two reasons. 1st, it may be infected with bacteria. When this is suspected it should be boiled and so sterilized. Secondly, and I am of the opinion that this is the common danger of cow's milk, its fat content is too high. It is too rich in cream for the average baby. Whether its particular kinds of fat are deleterious or not I do not know, but I am convinced that the cream of ordinary average 4% milk is the cause of the faulty nutritional states that we see, which are so commonly ascribed to their symptoms constipation, dyspepsia, acidosis, stationary weight, etc. These are but the effect

and not the cause of these nutritional upsets.

This fat excess is easily remedied by skimming off the cream that has risen after setting the bottle aside for five hours.

A common mistake here is to pour the milk into a shallow vessel to set, instead of setting it in its bottle. Cream floats to the top, and the deeper the column of milk the quicker and more perfectly will the cream be forced up.

I use pure skimmed milk diluted with 25% lime water, in the treatment of summer diarrhoea at any age, and have yet to observe any ill effects from the 4% proteid, though on one occasion I have had to lessen the 1½% fat of the skimmed milk by siphoning from the bottom of the bottle, before the diarrhoea was checked. No drugs were used.

The 4% sugar content of milk may be disregarded as a source of danger.

Aside from cow's milk the only other source of proteid is albumin (egg) water. Egg-albumin is not only a foreign, and in many cases a poisonous albumin, but the whole white of an egg is only equivalent to one ounce of skim-milk in food value. Therefore we are left with skim-milk as the only available source of proteid for infant use, and, as we must have proteid in a balanced food, we must use cow's milk in successfully feeding babies.

Most Doctors have the idea that to intelligently use cow's milk requires especial knowledge and study of milk-modification, and the carrying in one's head of a lot of intricate formulae which will ensure certain fractional percentages of the different elements, fat, sugar and proteids in the bottles. This is not so. A baby's tolerance, except in instances of long established nutritional upset, varies within quite wide range, he is able to stand quite a variance of the different elements, and the only element that does give any trouble is the fat.

The following simple guiding rules will enable any physician to feed any case that is not one of pronounced nutritional derangement.

We need to determine chiefly four things in every case.

1st.—How often shall I feed in each twenty-four hours?

The safest rule here is every four hours, up to the sixth month; say at 6, 10, 2, 6, 10, and 2 o'clock.

At the sixth month drop the 10 p. m. and the 2 a. m. feeds, and substitute 12 midnight.

At nine months drop the night feeding entirely.

The reason for this four-hour interval is that it takes three hours for the milk to leave the stomach, and the stomach should have a rest between feedings. The great majority of the dyspepsias of infancy are due to too frequent feedings. You've all heard of "three month's colic." Our textbooks recommend feeding oftener than every three hours up to the third month, when the interval is lengthened and the colic disappears. Try every four hours from birth and watch the results.

2nd.—How much shall I give at each feeding?

A simple rule, easily remembered, is to give one ounce more per feed than the child is months old, up to the eighth month. i. e. at four months of age give five ounces; at six months of age give seven ounces.

3rd.—Am I giving sufficient nourishment in the twenty-four hours?

The rule here is that 35 calories per pound of weight will allow for both maintenance of nutrition and development, and the increasing weight auto-

matically guides you in increasing the food.

To figure calories, remember that 1 ounce skim-milk gives 12 calories, and that 1 ounce of sugar gives 120 calories (all the proprietary foods, being mainly sugars give 120 calories. Milk and sugar is all that you need up to the sixth month, when starch is begun in the form of Barley water, not to increase the food values, but to begin educating the baby's digestive powers in converting starch into sugar, as he must do with all future starches. By the ninth month you may begin cereals such as hominy, farina, etc. The food value of these will vary according to their state of concentration in cooking and dilution with fluid, but approximately they will average about 25 calories per ounce cooked.

4th.—Are the percentages of the elements within safe limits?

Using skim-milk and sugar mixtures makes it simple to check yourself on the per centages of the elements.

Pure skim-milk has Fat 1.5%, Sugar 4%, Proteid 4%. So the only increase you can possibly get is by the addition of sugar.

One ounce of sugar in twenty ounces of mixture raises the sugar per cent 5.

Don't get above 7% sugar unless it is necessary in order to get the 35 calories per pound of baby's weight. In such a case use one of the malt-sugar foods, as babies can metabolize about twice as much malt-sugar as they can either milk or canesugar.

In all sincerity I can state that I have seen no case in which the Proteid of cow's milk has produced harm, when the 25% lime-water was used.

This in spite of the warnings of our text-books against using high proteids.

To summarize: We have a death-loss per year in our State, under five years of age, of eight per thousand population, as against about four per thousand for the rest of the country.

Many of these babies can be probably saved by a properly balanced diet. It is unreasonable for us to expect the class of immegration as long as we maintain our present high mortality statistics.

Probably a large per cent. of these baby deaths are due directly or indirectly to the ignorance on the part of the mothers, fostered by the mis-information of the baby-food vendors, and by the lack of education from the Medical Fraternity as to proper feeding principals.

The majority of these dead babies were probably fed almost exclusively on sugars and starches, and died from lack of the necessary proteid and fat.

The Medical Fraternity has, because of its belief that milk-modification was an intricate subject requiring special equipment or expert knowledge, failed to live up to its responsibilities to these infant charges.

This later statement is made without other object in view than to emphasize the ease with which the knowledge of infant feeding may be acquired, and to point out from the statistical evidence presented the imperative need and duty of the profession to the babies living and yet to be born.

I see no reason, if every member of the Medical Fraternity will insist upon the use of proteids (skim-milk) in their baby patient's diets, why there shouldn't be a considerable decrease in the State's infant mortality during the next few years.

Dr. Cornell Closes:

The question of the calories: In the first weeks of life all the food given does not stay in the stomach throughout the entire time of feeding. The Germans have demonstrated that some passes on through the pylorus during this time. For this reason they do not

FOOD	IN RAW STATE.					PREPARED AS DIRECTED FOR 6 MTHS. AGE						WHERE FAULTY				
	Fat %	Sug. %	St'ch %	Prot. %	C in liz.	Fat %	Sug. %	St'ch %	Prot. %	C in liz.	C. in day	Fat %	Sug. %	St'ch %	Prot. %	C. per day
Womans's Milk	3.5	6.5	—	1.75	21.											
Whole Cow's Milk ...	4.	4.	—	4.	20.	Mlk 22 oz. Sug ½ oz. L-Wat 4 oz. Wat 9 oz. (5x7 oz.) 2.5	4.	—	2.5	15.	525					
Skim Cow's Milk	1.5	4.	—	4.	14.	Skim Mlk 30 oz Sug 1 oz Lime Wat 5 oz (5x7 oz) 1.3	6.2	—	3.4	15.	525.					
Nestle's Food	5.5	59.	5.4	14.	120.	1½ oz in 8 oz Water. dilution 1 to 5. (6x6 oz) 1.1	12.	1.1	3.	23.	828.	—	X			X Sterilized
Holick's Malted Milk	8.8	68.	—	16.	135.	7 Dram Horlicks, 6 oz Wat (dil 1 to 7) (6x7 oz) 1.2	10.	—	2.3	17.	714.	—	X			X Sterilized
Condensed Milk	9.	54.	—	10.	90.	Dilute 1 to 6 and feed 5 x 7 oz. 1.5	5.	—	1.6	15.	525.	—	X		—	Sterilized
Mellin's Food	.16	79.	—	10.	120.	½oz Mellins 12oz Mlk 4oz Wat Dil 32 times (6x6) 2.4	4.4	—	2.6	15.	525.					
Dextri-Maltose	.14	98.	—	.75	110.	Used as Sugar with Cow's Milk										
Eskay's Food	3.5	54.	30.	5.82	128.	2 oz Eskay's, 32 oz Mlk, 16 oz Water (7x7) 2.8	4.7	1.2	3.	16.	785.					X
Albumin (Egg) Water	.1 (Pure egg-white)	—	—	13.	15.	1 Egg-white to 16 oz Water. 10 x 4 equals 40 oz .06	—	—	.8	1.	40.	—	—	—	—	— for. Alb
Barley, Robinson's ...	.1	—	82.	5.	111.	½ oz to 16 oz Water. 4 oz every 2 hrs equals 40 oz .03	—	2.5	.4	2.	80.	—	—	—	—	—
Cereals (Hominy) ...	.2	—	18.	2.	23.	2 ounces three times a day .2	—	18.	2.	23.	138.	—	—	X	—	—
Panapeptone (and Allied alcohols)	—	—	—	6.	55.	1 teaspoonful diluted 8 times. 1 oz a day —	—	—	.7	7.	55.	—	—	—	—	—
Beef Juice and Extr.	—	—	—	9.6	11.	½ teaspoon in 4oz water. 3 teaspoons a day (dil 1 to 64) —	—	—	.1	.2	33.	—	—	—	—	—
Beef Broth	.6	—	—	.4	1.25	5 oz. three times a day .6	—	—	.4	1.25	20.	—	—	—	—	—
Butter	85.	—	—	2.5	214.	½ oz a day					107.	X	—		—	
Candy	—	96.			104.	2 ounces a day					208.	—	X		—	
Sugar		100.			117.	1 ounce a day					117.	—	X		—	

The above figures approximate only—Average 6 months baby needs 525 Calories per day — equals too little X equals too much.

fear an over-fill and feed every four hours. This allows the stomach to rest between feedings, and the babies do better, the mothers get more rest, and their breasts secrete better, etc. The babies do not suffer with our "three-months' colic."

I remember the title of Dr. Holt's paper, which was to have been read at the last Tri-State meeting here, was something like "Our Changing Views In Infant Feeding," and the other day Dr. Freeman of New York, sent me a re-print which clearly shows the tendency towards adopting the German views of long intervals. Grulee's book, which he wrote after returning from Germany, evidently, makes infant feeding a pleasure to read and study. It is a small book and very practical. So I don't think the four-hour interval is too long, even from birth. We know the babies get practically nothing during the first few days, and the four-hour interval, giving six feedings per day, seems to furnish sufficient nourishment for the first few months.

My statistical figures do include the colored people, and I see no reason why we should excuse our high mortality on this account. The Northern cities have their laboring classes, composed of Italians, Poles, Russian Jews, etc., and I have seen, when going after autopsy permits when an interne in the New York City Hospital, such crowding of families in a room as is never seen amongst the colored people here. It pretty well balances up.

I took the chief cities of the several states represented in my figures, and they fairly closely represented the general state's figures.

Charleston leads with 27 deaths per 1000 population, in children under 5 years of age, with Savannah second with 25 per 1000 population.

We can at least look into the situation. It was startling to me to find the figures as they are, and I believe, if we all know the facts, that steps will be taken to rectify matters: public lectures, etc., towards lowering the general mortality rate.

As to the desired immigration: When we speak of them we are not speaking of the laboring classes, primarily, because it is the presidents and vice-presidents and the superintendents and bosses, men of higher education, who bring the enterprises into a locality with their large following of laborers, etc., and these leaders are wise men who do look up health matters and ascertain whether they will get full efficiency from their labor.

Dr. Ely, a specialist in children, came here several years ago because he thought, after looking up the statistics and finding such a high infant mortality rate, that it would be a good place to practice. He left again. There is so much sickness in our sec-

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JOHN W. PARKER, M. D.,
Gastro Enterologist and Medical Director

J. A. BULL,
Manager

tion that the people cannot pay the doctors.

DISCUSSION:

Dr. D. L. Smith, Spartanburg, S. C.

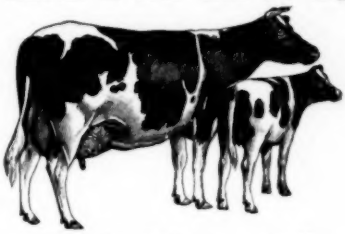
I would like to emphasize about the use of the patent preparations, and the proper theory is that the patent preparations, giving rise to marasmus, etc., and the lack of vitamins—the life of vitamins have been killed.

They are doing more and more every day on the vitamins, and one of the men doing a great deal along that line with pellagra told me the other day that he found a lack of the vitamins. Since the celebrated case of beri-beri, it has opened up a new field in this theory.

In regard to Dr. Cornell's four-hour feeding from birth, I would like to disagree with him just on one point: that he would not get the proper number of feedings in the twenty-four hours with the proper percentage to bring up his caloric value so that the child could get enough nourishment to maintain its growth. A child at birth requires from 50 to 54 calories per pound, and you would not get enough feedings there with the proper percentages to get you the proper caloric-value to give results. I, however, think after the fourth month then the four-hour feedings of the infants is my plan, but not up to the fourth month. I feed before that time every three hours generally. However, we feed individuals rather than a collective lot. Some children do better with two-hour feedings than three or four-hour feedings, has been my experience.

NO EXCESS OF FAT IN HOLSTEIN COWS' MILK.

Prof. M. J. Rosenau of Harvard Medical School, says in his book, "The Milk Question:" "The researches of Habner, Keller and Czerny show that **the fats are more often the cause of much of the digestive disturbances in infants** than the proteins. When the fat is excessive in amount, the infant at first seems to thrive, but sooner or later loses weight and appetite and shows symptoms of ill health. At the same time the stools become a pale gray, hard and dry in consistency and are composed largely of fatty soaps. The alkaline bases, which are deficient in cows' milk are largely



drawn from the body to saponify the excessive amount of fat in the intestines:—a condition resembling acidosis may then appear. As a result of the deranged digestion, fermentation takes place in the intestines and the so-called catastrophe ensues."

Holstein cows' milk with its moderate fat content, fine emulsification and comparative freedom from the volatile glycerides is the choice of careful students of infant feeding. **It is naturally light colored. Don't labor under the impression that yellow milk is better, for it isn't.** Send for our booklet, "Specialists' Evidence."

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For Diagnosis and Treatment of Nervous and Medical Patients

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The Journal OF THE South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.

Annual Subscription, $2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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EYE, EAR, NOSE, AND THROAT.
E. W. CARPENTER, M. D., Greenville, S. C.

EDITORIAL

SOME NOTABLE SOCIETY MEETINGS.

The Editor attended recently several society meetings of more than ordinary interest.

The Pickens County Society on June 7th invited a large number of physicians from the nearby counties to meet with them at Central. The idea was to hold a meeting embodying only practical papers, clinics and demonstrations, also public health lectures to which the general public were invited.

The large school building was used for the occasion and every one was impressed with the success achieved.

On Wednesday, July 12, the 8th District met at Ridge Springs in the heart of one of the richest farming sections of the State. The papers were of a very high order of scientific merit.

The ladies of this hospitable little city provided a bountiful picnic dinner, after which the meeting was thrown open to the public.

The Greenville County Medical Society and the Chick Springs Company on July the 14th gave the profession of the up-country one of the most royal receptions we have attended in a long while. Approximately one hundred and twenty-five doctors were there and they spent the entire day enjoying the feast of scientific papers and the sumptuous dinner provided by the Chick Springs Company.

All of these meetings deserve special commendation, for those in charge presented certain features which were

attractive and were thus freed from the dull routine societies sometimes suffer from.

Full reports will doubtless appear in an early issue of the Journal.

——o——

INFANTILE PARALYSIS.

While there is little cause for alarm in this state over the appearance of infantile paralysis in a few localities, the profession should maintain a watchful attitude in their daily rounds. The disease is by no means always easy to diagnose. The family physician who keeps fully abreast of our knowledge on the subject however will be in position to render valuable assistance to his community when necessity arises. The State Board of Health has taken immediate steps to prevent a spread of the disease and from the reports many local boards have taken similar action.

We would call special attention to the advances made in the treatment of these cases of paralysis after the acute symptoms have subsided. It is here that the resourceful physician may render a great service to his clientele.

It is a matter of months or years, the treatment of these cases of paralysis but the rewards are considerable by modern methods.

It is important that the physician encourage the search for relief. These little paralyzed patients are a source of pathetic interest in the home and should have the benefit of the best treatment science affords.

——o——

THE A. M. A. AT DETROIT.

The meeting of the American Medical Association at Detroit June 12-16, was in every particular one of the most successful meetings ever held. The attendance approximated five thousand. This record was due largely to the well known reputation of the city as a convention center and to its accessibility for a large proportion of the membership. South Carolina was not represented by as many as usually attend. The following were present: President C. B. Earle, Greenville, Secretary-Editor E. A. Hines, Seneca, Dr. W. H. Powe Greenville, Dr. L. Rosa H. Gantt, Spartanburg, Drs. J. L. Dawson and F. B. Johnson, Charleston.

The scientific work of most of the sections was of a very high order. A number of interesting features deserve mention. The Scientific exhibits were of more than ordinary value. For instance, Indiana had an exhibit showing the economic status of the profession in the State, fees, medical society attendance, post graduate attendance, and the fundamental causes of success or failure in Medicine. Indiana presented, for the first time, an exhibit on criminal abortion. South Carolina came in for a full share of scientific interest, owing to the extensive exhibit of the Thompson-McFadden Pellagra Commission of its investigations at Spartanburg. Perhaps the most epoch making exhibit was that of Dr. Rosenow of the Mayo Clinic, showing the elective localization of bacteria when injected into animals, producing appendicitis, cholecystitis, gastric and duodenal ulcer, and other elective inflammatory foci.

In the Section on Diseases of Children, while the symposium on acidosis was under discussion, there were at least five hundred doctors present. The venerable Dr. Jacobi felt called upon to briefly review the history of Pediatrics to the large assemblage, recalling the deaf ears turned to his appeals for special study of Children's Diseases, half a century ago.

In the Surgical Sections, the moving picture was a special feature in illustrating many papers. Dr. Wyeth

of New York read a notable paper on the utilization of the movie in teaching surgery.

The House of Delegates accomplished the most far reaching work it has undertaken in recent years.

The report of the Committee on Social Insurance was monumental and embraced the whole world. It was the consensus of opinion that in the very near future the entire United States will be obliged to seriously consider Health Insurance.

One of the big things the House of Delegates did was to change the constitution so that a chairman might be elected to preside over the House, thus freeing the President of the American Medical Association from this duty. In other words, a parliamentarian will now preside and thus the business will be materially facilitated. Dr. Hubert Work of Pueblo, Colorado, was the man elected for the ensuing year. The House of Delegates in the future under the new arrangement will practically complete its work before the scientific work begins, that is on Monday and Tuesday. The opening sessions of the general convention will be held on Tuesday night, instead of in the morning, thus half a day will be saved for all parties concerned. The Association placed at its head Dr. Charles H. Mayo, one of the world's most distinguished men. For the first time in about thirty-seven years the Association will meet in New York City. We confidently expect a large attendance from South Carolina.

——o——

ADVERTISING GROWS.

In this issue appears several new ads. showing that our Journal is attracting a wider range of business, both within and without the State. We are asking that our readers take notice of this increase and help us maintain it by showing preference to those who patronize us. We could not run a Journal without the advertisers and our constant effort has been to accept only the highest class of business.

——o——

THE ASSOCIATION GROWS.

When the recent financial depression was at its worst a little over a year ago, about one hundred of our members were dropped for non-payment of dues. A number of County Societies were suspended for a time. It is highly gratifying to be in position to announce that we have 707 members now. Our greatest number at the close of 1914 was 736. All the County Societies have been reinstated. We confidently expect to reach 750 at the close of the present fiscal year. Some of the County Societies have appointed special membership committees and the members have, by personal visitation and urgent letters, brought an increase to their local societies. We commend this plan again for adoption. It succeeds.

We urge our members to make special efforts toward securing applications for membership from this year's graduates.

——o——

DR. GANTT HONORED.

We are delighted to copy the following editorial from the official Journal of the National Organization of Women Physicians.

The Committee of Women's and Children's Welfare held their annual meeting at Hotel Statler, Monday evening, June 12th. The most efficient chairman of this important committee, Dr. Lenna Means, of Des Moines, Ia., presided, with Dr. Sophie Hinze Scott as secretary. The meeting was called to order at eight o'clock, and a charming address of welcome was given by Dr. Rhoda De Bois, of Detroit, who allegorically

likened the world to the Land of Nod, and the awakening on many questions, especially those confronting this committee, as the inevitable awakening from the passive state of acquiescence to a realization of the needs of humanity.

Dr. Eliza M. Mosher sweetly and graciously responded to this address of welcome, and gave the note of inspiration, which is so eminently characteristic of this remarkable woman. Dr. Mosher, in a few tender words of appreciation and love, voiced the thoughts of those present that one who loved this work, and all other work for the good of medical women, had passed on to larger fields of usefulness, and that no longer on this earth would the voice of Dr. Florence Huson be heard. She suggested that Dr. Huson's friends be passed.
of Dr. Huson's friends be passed.
resolutions expressing the sorrow of

Dr. Means outlined in an interesting manner the work of the year—which is given in full in her annual report, the same being published in this issue.

Dr. Rosa Gantt, of Spartanburg, S. C., one of the South's best known medical women, read an excellent paper on "The Prevention of Ophthalmia Neonatorum," which was considered so valuable a contribution that the Council on Health and Public Instruction of the A. M. A. will have it printed in leaflet form for distribution. We are glad to announce that this paper will appear in the July issue of this Journal, your official organ.

TUBERCULOSIS WEEK.

The first week in August has been designated as Tuberculosis Week. The State Press Association has agreed to run simultaneously in all the papers a page more or less devoted to this subject. The claims of the State Tuberculosis Sanitarium near Columbia will be presented very forcefully. This comparatively new institution has opened in the last few weeks a woman's ward. The institution is now well equipped for the treatment of incipient cases of Tuberculosis for both men and women, for less cost than is possible elsewhere. The location of the institution, about eight miles from Columbia, is ideal. The control is entirely in the hands of the State Board of Health, which is the South Carolina Medical Association.

ORIGINAL ARTICLES

FIVE SUCCESSFUL CASES OF BRONCHO-ESOPHAGOSCOPY.

By E. W. Carpenter, M. D., Greenville, S. C.

IN presenting this work for your consideration I realize that there is nothing original in it. The field has not yet been thoroughly explored and as the harvest seems to be increasing, a mutual exchange of experiences will be helpful to those who are interested. I am inclining to the opinion that great caution is demanded in forming a judgment about the removal of foreign bodies which have remained for years in the lungs without endangering life; especially when these foreign bodies are located in the upper lobes, I think we should advise these patients

Read before the South Carolina Medical Association, Charleston, S. C., April 19, 1916.

to "bear the ills they have rather than fly to those they know not of."

Case 1.—John R. Williams, 13 years, Ware Shoals, S. C. Referred by Dr. J. B. Workman. 11-2-15.

Three days previous to his arrival at my office the urgent necessity to blow his nose presenting itself, and not being able to resist the said impulse in spite of the fact that his fists were filled with cocklebburrs he proceeded to the performance with vigorous inspiratory and expiratory efforts until arrested by the more urgent necessity to cough, yielding also to this impulse he finds himself unable to desist day or night. A 4% Sol. Cocaine sprayed in the pharynx permitted the use of the speculum which exposed an easily recognized cockle burr between the true cords of the Larynx. It was extracted with the forceps without difficulty. The presence of this vegetable substance caused very little inflammatory reaction. Ordinarily, a purulent trachitis would have been present but there was no suppuration present in this case, the cough promptly subsided and the voice was normal in a few days.

Case 2.—Mr. Jesse McDowell, Belton, S. C., age 55 years. Referred by Dr. C. G. Todd. 12-9-15.

Twenty-four hours previous while eating fresh pork, he became unable to swallow. Since then all attempts to swallow food or water is followed by prompt regurgitation of same. After an application of 10% Solution of Cocain to the base of the tongue and larynx, the Esophagoscope passed without resistance to the region of the pylorus, where an obstruction was encountered. A red mass presented thru the tube which resembled a growth, on careful manipulation with a probe it did not bleed, then grasping it with Killian-Little forceps three portions of red meat were withdrawn, the last being the largest. Total weight of extracted substance 10 grains. After sponging the area at the bottom of the tube an ulcer was quite apparent. The presence of this ulcer was the reason for a spasm which arrested and held this small portion of meat. Further history uneventful.

Case 3.—Mr. V. R. Jenkins, 46 years, Piedmont, S. C. 8-26-15.

Walked into my office with the statement that he had choked while eating beefsteak an hour before and could not swallow. An attempt in my presence to drink water resulted in prompt regurgitation of same. A history of one or two slight attacks of choking during the last few years was elicited.

Esophagoscope was introduced in the office and passed to about the fourth dorsal vertebra when all progress was stopped. Nothing could be seen because of fluid, restlessness and the highly excited state of the patient.

Patient ordered to the hospital with directions for bismuth and X-Ray. This was not complied with until the next afternoon when the plate showed slightly dilated esophagus filled with bismuth. The shadow suddenly and completely ending opposite the fourth dorsal vertebra with no suggestion of trickling of bismuth, but the esophagus showed faintly for a few inches below the bismuth.

In sitting posture after a hypo of Morphine Suph. 1-4 and Atropine Sulph. 1-150 and an application of 10% Cocaine to the pharynx the obstruction was easily reached with a 12M.M. scope. Considerable time was consumed in mopping out the bismuth and muscilage. For this purpose I found the Killian-Little forceps superior to any type of sponge holder

I have ever tried. As rapidly as it is withdrawn and pointed at a nurse, the jaws of the forceps can be opened, the nurse removes and replaces a small square of gauze made from drainage tape.

A slightly dilated esophagus with some foreign substance acting like a cork in the center of the floor of the cavity was plainly visible. This was removed piece-meal and proved to be particles of unchewed meat fibre and long strings of fascia, the total weight of which was 90 grains. This was tightly wedged in a narrow, rigid lumen about two inches long. The walls of the esophagus in this segment looked like congested scar tissue, and bled slightly.

After removing the obstructing substance, the scope was passed into the stomach and a pint of water was introduced into that organ. No other lesion was observed.

Case 4.—Bruce Roe, age 6 years, Easley, S. C., R.F.D. No. 3.

Forty-eight hours previous while eating a peach laughed heartily and was seized with a violent choking spell and face turned quite blue. Since then has had constant wheezing but no cough. S. P. Asthmatic type of respiration pronounced, movement of right chest restricted, no air entering upper middle lobe on right side. Investigation showed soft green substance in upper lobe bronchus which was extracted at the first attempt. It came out of the scope with a sucking noise due to the fact that it filled the tube and acted like a piston.

Case 5.—Master Duggin, age 4 yrs. Referred by Dr. W. L. Kirkpatrick, Pacolet, S. C.

Four days previous while playing with a tin whistle it was accidently swallowed. Liquids had been taken in small amount and with great difficulty. A Bronchoscopist of considerable ability had attempted extraction under general anaesthesia with a Killian type of instrument, using the long esophageal speculum, but failed in toto to locate a foreign body in the esophagus. The flouroscopic picture showed the whistle with sterling clearness just opposite the sixth cervicle vertebra. Without any anesthetic except two light applications of 8% Cocaine to the glottis, in the Johnson position with the original Jackson speculum, the whistle was exposed and extracted with the Killan-Little forceps.

Lessons.—Killian-Little forceps is one of the very best sponge holders. In obstructions of the esophagus when the scope has penetrated into the stomach, fill it with water, because on withdrawal of the scope a spasm or continued obstruction may present itself. If water has been given copiously, time has been gained in which to plan the surgeon's next move.

Case 2—Suggests the necessity for cautious and careful inspection of obstruction in the esophagus. A growth might be easily mistaken for a piece of meat and roughly handled before its true nature was discovered.

This case also illustrates how a small foreign body can completely obstruct the esophagus under certain circumstances.

I think the ulcer was th ecause of a spasm which grasped the ten grains of meat.

Case 4.—Asthmatic breathing was very pronounced. Over the whole air-bearing space on both sides the upper and middle lobes lacked vesicular breath sounds. I have seen similar physical signs in true asthma and had it not been for the history of choking and violent coughing spells while eating a peach I would have delayed the use of the scope.

Case 5.—When searching for a for-

eign body in the upper part of the esophagus do not be satisfied that it is not present if you fail to find it the first time you use the speculum. Reinsert the speculum from the right side, then the left and finally directly over the posterior surface of the cricoid, each time lifting the instrument towards yourself strongly. In this way the esophagus can be opened and inspection made to considerable depth. In using these three positions the four walls of the tube are exposed. While the speculum may over ride the foreign body the first time, it is not apt to remain hidden if the third position is used. The over riding of a foreign body with a tube or speculum has caused the failure of more than one good operator.

DISCUSSION:

Dr. R. H. Black, Spartanburg, S. C.

At the Greenville meeting of the South Carolina Medical Association about fifteen years ago, I reported four cases of cockle-burr in the larynx, or rather, resting between the vocal cords. After the reading of that paper I do not think there was a single physician present who thought that I was telling the truth. In fact, I had many of them to so express themselves, even after I had finished that paper.

About six or eight weeks ago one physician in this State (whose name I have forgotten), came to me and told me that he doubted my report at that time, but, he said, "Doctor, I actually have had one of those cases since that time myself."

This is the first official report in this Association so far as I know, of a cockle-burr in the throat, before or since I read my paper at Greenville.

I have had four cases. I had no X-Ray, I had no bronchoscope, I had nothing except the touch. With the history of the burr in the throat I passed my left index finger down to the larynx and touched the burr, then I passed a McKenzie forceps over palm or surface of finger, caught the burr and removed it. I have removed four burrs from the larynx after that method. By some sudden inspiration they are drawn into the larynx, but by reason of the needles on those burrs they are arrested by or caught between the vocal cords. These patients were children and young people.

I want to congratulate Dr. Carpenten for reading this paper. He has waited a long time to come to my rescue, and I thank him very much for it.

Dr. W. P. Porcher, Charleston.

Mr. President, I was present at the time Dr. Black read this paper, and I was also absolutely incredulous, but we must have misunderstood him altogether.

Dr. Black just stated he used a McKenzie forceps to extract those bodies. I understood him to say at the time that he took those bodies out with his fingers.

Now, it is just barely possible for a man with an extremely long digital finger to reach below the middle of the eppiglottis, and to reach a foreign body in the larynx below the rima glottis is a physical impossibility. Therefore, I think the Doctor will forgive us for questioning his statement, if we so understood it.

There are many forceps made especially for the purpose, and I have extracted every conceivable foreign body and tumors off the vocal cords themselves; therefore, you have to have a long instrument and a proper mirror.

Dr. Carpenter Closes:

Mr. President, I would like also to apologize to the Doctor, if I misunderstood him. He has made a partial

correction of the statement he made years ago.

I do not recall his mentioning the use of forceps for extracting the foreign body, but he beautifully and impressively described how he hooked his finger around the foreign body and removed it.

Now, if he inadvertently neglected to mention the forceps, I apologize to him.

I would like to say that the Doctor's method is a very dangerous one, and he had better refer those cases, because some day he will push more cockle-burrs down the larynx than he will extract.

I do not extol to you the benefits to be derived from the direct method, to the **exclusion** of the indirect method. The man who thinks that the day has come when all this work must be done under direct inspection is mistaken, and many of the laryngologists who enthusiastically adopted this method at first, are now utilizing both methods, because one loses dexterity by confining oneself to any particular method.

RUPTURE OF THE UTERUS.

Report of a Case.

W. L. Kirkpatrick, M. D., Pacolet, S. C.

Case:—Bertha L., col., age 34. Married at 16. The mother of 8 children, oldest 16—youngest 2 yrs. 10 mos. Fifth and seventh confinements were forceps deliveries, both on account of inertia. February 29, 1916, I was called to see patient at 10 P. M. I learned upon my arrival at the bedside that she had been in labor all day but that pains had been real hard since 5 P. M. I proceeded to make an external examination of the abdomen first. I found a typical pendulus abdomen with walls very thin and relaxed. The first thing that attracted my attention was the seeming nearness to the surface of a bony part, which I could very easily determine to be a foot. I thought the foot could not possibly be in the uterine cavity.

Next I made a very careful vaginal examination and found there was an absence of cervix and any presenting part of the fetus in the pelvis. The promontory of sacrum could be reached very easily, and the cervix, higher, could be reached only with difficulty with two fingers in the vagina.

There was no active hemorrhage in the vagina but some blood clots. The patient said pains had ceased shortly before my arrival and that her abdomen had suddenly become very sore all over. Feeling sure that I had a case of rupture of the uterus with the escape of a part or all of the fetus into the abdominal cavity, I ordered an automobile at 11 P. M. and carried the patient to the Spartanburg Hospital, a distance of eleven miles. We arrived at the Hospital in a little more than an hour, which made it then midnight and, although the patient had a Hypodermic of morphine before we started, she suffered from soreness in the abdomen all the way. Arriving at the Hospital I called Drs. A. R. Fike and Walter Lancaster, both of whom responded promptly and were at the Hospital in a few minutes. They examined the patient carefully, confirmed my diagnosis, and we decided to open the abdomen at once. The patient was prepared promptly by Miss Zelfelder, the head nurse, and her excellent corps of assistants and the operation began at about 2.15 A. M. We found a 10 lb. fetus, the placenta, a great quantity of Amniotic fluid, and some clotted blood all in the abdomen. This was all removed and the cavity carefully sponged.

The uterus was then lifted out of the abdomen and a tear was found extending from the cervix on the posterior side, 4 or 5 inches upward, into the uterus, including peritoneum, muscle and endometrium. The tear was almost as smooth as if it had been cut and we closed it with thru and thru 20 day catgut sutures. We placed three large, long, iodoform, cigarette drains in the cul-de-sac, which was the site of the tear, switched them around the right side of the uterus and brought them out in the lower end of the abdominal incision and closed the abdomen in the usual way. Thirty minutes time was required to do the operation and the patient was put to bed in fairly good condition. Altho' she had a rather stormy time for the first 3 or 4 days, she made an uneventful recovery.

Pulse when the operation began was 120, Res. 30. Pulse when she was put to bed was 140, 150.

SOME INTERESTING CASES OF FOREIGN BODIES IN THE NOSTRILS AND EARS OF CHILDREN.

By L. O. Mauldin, M. D., Greenville, S. C.

Mr. President and Gentlemen of the South Carolina Medical Association:

LOOKING back through a decade of work in rhinology and otology I recall numerous cases of foreign bodies removed from the ears and nostrils of children, all of which have been interesting in some particulars and in a short way I wish to present a few of them for your consideration.

It occurs to me that the particular locality in which a child lives and particular environment in which he is placed have a great deal to do with the character of foreign bodies which we may find in these channels.

I can recall instances of having removed such substances as lima beans, peas, grains of corn, pieces of hickory nut shell, bearded grass and rye heads, cotton seed, wads of cotton, wads of flannel cloth soaked in tallow, cartridge shell, paraffine, fat meat, and numerous insects.

Case One.—A child 18 months old was brought to my office with right nasal obstruction for three months. There was considerable scratching and picking at nostrils and crying with considerable objection to examination, which is true in nearly all these cases. On examination with nasal speculum and reflected light I found turbinals swollen, deeply injected, and a white spot between the superior and middle turbinates which looked like pus, but with cotton wrapped on applicator and applied could not be removed. I decided from this fact and from the fact of obstruction to the nostril that this was a foreign substance independent of the nasal secretion and wrapped some cotton on applicator and bent it so as to make a hook, slipped the hook behind this substance from underneath and with some tension pulled the hook forward, following which act the foreign substance was thrown across the room. It was immediately looked for and a lima bean minus the husk was found in almost a sprouting condition.

Under a mild alkaline antiseptic douche after this the child got well with good nasal breathing.

Case No. Two.—Child three years old, while playing with other children on a pile of cotton seed put one up his right nostril. Was sent to me by a physician in a distant part of the county. Examination with nasal spec-

Read before the South Carolina Medical Association, Charleston, S. C., April 19, 1916.

ulum, reflected light &c., showed swollen turbinates and bleeding mucous membrane, but the position of the foreign body could be located packed between the superior and middle turbinates. A spray of boracic acid and adrenalin solution was used to cleanse the nostril and to contract the tissue. This induced a sneezing which fortunately brought the foreign body forward and made it easy to grasp with alligator forceps. Since then I have found several cases in which sneezing has helped in the removal of these foreign bodies from the nose and this is a practical point I wish to present to you. Induce sneezing if you can in a non-irritating way.

In looking up literature on this subject, I find that the old Medicos advised blowing into the mouths of babies by putting mouth to mouth. It was said that this would blow the foreign body through the anterior nares. According to present day teaching this would be unhygienic, but with my Politzer bag I have tried unsuccessfully to remove these foreign bodies by blowing into the mouth of the baby with the lips of the baby closed tightly around the nozzle of the bag.

The particular instruments that have been most serviceable to me in the removal of all these foreign bodies which I report have been my alligator forceps and a metal applicator which I could wrap with cotton and bend to any shape that in my judgment of the position and character of the substance might be most applicable to the condition present.

In connection with this case will say that I have had five cases of cotton seed in the nostril. Have had three cases of grains of corn in the nostril, all of which have had similar histories and have been removed in about the same way.

I usually first spray the nostril with adrenalin and boracic acid solution to clean same and to contract the swollen tissue and allow me to see as much as possible, and if the parts look unusually sore I swab with 10% novocain solution so as to have as little pain for the patient as possible.

If cannot catch good hold onto the foreign body with my alligator forceps, I get a crooked applicator wrapped with cotton behind same and by slight traction the foreign substance can usually with certainty be pulled forward.

Be sure that some one holds the patient's head, body and arms steady, all the time the examination and extraction is being made.

Such foreign bodies as peas, beans, corn, and in fact, seed of all kinds will show a tendency to swell in a short length of time. The temperature and moisture of the body being favorable for this phenomena.

Case No. 3—Is that of a boy five years old brought to my office from a distant county with a cartridge shell (22 calibre) in his right nostril. Under two slight chloroform anaesthesias on the same day other physicians had tried to extract the cartridge but owing to cumbersome instruments, failed By the time the patient reached my office the anterior nostril was immensely swollen and very sore. With reflected light and speculum introduced I could not see the foreign substance but could elicit same with a small bluat probe. Did not at this time know whether or not the shell was loaded, so got a physician who came with the patient to give anaesthetic and with speculum reflected light managed to get a dull, bent tonsil dissector behind the substance whereupon with a little traction, it slipped out with little difficulty. Was found to be an empty No. 22 calibre cartridge shell.

Case No. Four.—Is that of a baby one year old, brought to my office for me to determine if adenoids accounted for the nasal obstruction. I found one nostril totally obstructed with what I thought at the time to be a membrane of some kind. On endeavoring to get some of the membrane for microscopic examination I brought forth a large piece of fat bacon, after removal of which the child got well of the obstruction.

Case No. Five—Is that of a child with a pea in the ear. Had been in the ear several days and had swollen.

Earnest endeavors of the family to remove the pea had caused the ear to be painfully sore. I got another physician to give the anesthetic and under reflected light and a curved knife severed the pea in twain and removed the halves with alligator forceps.

Several cases under this report have been with peas in the external auditory canal. They were removed some under local, some under general and some without anaesthesia.

Have also removed corn in this way.

Case No. 6.—Is that of a child sent me by another physician who had removed a very small pebble from one ear. The physician seemed sure that he had broken the pebble off and that a piece still remained in the ear. The canal was very painful to touch and considerably swollen. Under general anaesthesia I removed a cherry seed from same ear which seed was packed far back in the canal and seemed to push the drum membrane backwards into the middle ear. Small alligator forceps were serviceable in this incident also.

Case No. 7.—Is that of a four year old girl brought to my office with a discharging ear of three months duration. On syringing the ear to cleanse it for examination I found coming forth a decomposed bug about the size of a medium sized cock roach.

Case No. 8—Is that of a baby about a year old, with chronic discharging ears. On syringing each ear for cleansing I got out of each a large amount of pus. From the right ear came forth also three flies; from the left two. These flies had evidently been feeding on the pus and crawled into the ears, where they died, thereby adding to the intensity of the infection and irritation.

I have mentioned these cases to cite to you that it is a fact that children put foreign substances in their ears and nostrils. The reason why they do these things that are so dangerous to the organs of special sense and even to life itself, is one of the interesting things in connection with the subject. Of course the insane are prone to do such things, but with the child who is not insane I believe that there is a psychological reason for such an act. These are cavities which the child has not seen or felt the bottom of so he proceeds to introduce something into the cavity that he might find out where it goes or that might possibly enable him to explore the cavity and see what happens.

Another reason why I report these cases is the fact that a foreign body is more difficult to remove from a child's nostril or ear if its removal has already been attempted, so if you are going to refer it to a rhinologist or otologist I would beg you to send it direct.

DISCUSSION:

Dr. E. W. Carpenter, Greenville.

Mr. President, I know that Dr. Porcher is going to discuss this paper, and I want to beat him to it.

We know that there are three classes of people who introduce foreign bodies into the various cavities of the body: children, insane and drunken people. Now, I am not going to discuss why

insane or drunken people do these things, but simply why children do it. I do not think the cause that Dr. Mauldin mentions is the exclusive one. I believe the reason children introduce these foreign substances into their ears and eyes is largely reflex. Very few small children know how to blow their nose; it becomes stopped up, congestion follows, and obstruction ensues. It is for these reasons, I believe, that children introduce these foreign substances into their nose. Or a feeling of stuffiness of the ears, caused by catarrhal conditions, etc., will excite similar measures. I believe it is in an effort to relieve themselves that children introduce these foreign substances into their ears. There must be some sound reason for it, because I recall a pretty little girl who was brought to my office twice in the same week to remove a wad of chewing gum from the same nostril. In another instance a two-year-old child was brought three times in the same day to remove a small green peach from the left nostril. She did that three times in twelve hours. There must have been some irritation there. She would not have gone on such an exploration three times in the same day when she was held each time to extract this foreign body.

The Doctor mentioned, and I want simply to put him clear, that he did not advocate the use of insufflation or air pressure behind the foreign body to expel it, and I want to enter a protest for fear you might use this method in some instances. I think it would be highly dangerous where a foreign body has been in situ long enough to cause a purulent exudate in its vicinity to force air or water through the mouth in order to remove the foreign body for fear you would force this exudate into the middle ears, and then the Lord only knows what would happen to you and to the baby.

Dr. W. P. Porcher, Charleston.

Mr. President, I am not going to impose upon your patience to discuss this thing. You will pardon me, however, for telling you a rather amusing incident of a friend of mine who was out hunting. He suddenly said, "I have a bug in my ear," and the friend said, "You are going to stop hunting then?" He answered no, and said, "Have you got a bottle of beer around here?" He took the bottle of beer and shot the stuff into his ear and the bug came out and he went on hunting.

Dr. Carpenter: Was your friend a specialist on beer?

Dr. Porcher: I have never given chloroform in but one instance for extracting a foreign body from the ear, because I think with care and proper instruments everything can be extracted. In that case it was a bean introduced into the ear and the child was so frightened by the parents before it was brought there that after two hours' work I had to use a general anesthetic. The bean had swollen up in the ear. I gave the chloroform, passed a small extractor behind it and out it came.

Now I have taken out glass beads, bed bugs, cock spurs, cock roaches, buckshot, teeth, beans, peas, and everything you can conceive of, and I have found the use of water absolutely sufficient, except where swollen. One friend sent me a patient with a buckshot, because he thought I couldn't get it out. I simply took my ear syringe and drove the water behind it and the shot came out.

Of course, the most difficult thing which a physician has to do is to exert control over his patient, and get him over the fright which the parents have instilled into the little child be-

fore they brought him to the office. After that it is simply a matter of warm water and a good syringe.

One woman swore she had had a cock-spur with spines in her ear for six months. I have taken out a whole cockroach. I don't mean to say all the parts were together, but they were all there.

It would take an endless length of time to explain all of these cases, so I will only say with proper manipulation and plenty of warm water you can extract anything out of the ear.

Dr. Black: Mr. Chairman, I believe all that the Doctor has said. (Applause.)

Dr. W. P. Houseal, Newberry.

Mr. President, I am not a specialist. In my small town we do not have specialists on the throat. I got my training under the great W. P. Chisholm of Baltimore. He used a syringe, No. 509, and I have never failed to get a foreign body out of the ear or nose with warm water and a good syringe.

I got up especially to relate an experience which I had shortly after I graduated. I was called up the road to see a case of foreign body in the ear. Two physicians had been trying to extract a grain of pop-corn which the child had thrust into the ear. Those two physicians had poked into that child's ear until it was absolutely raw, and one of them said, "Doctor, how are you going to get that pop-corn out of that child's ear?" I said, "I will get a syringe." He said, "You will never do it." I had a good syringe, No. 509, which I do not now use, but a good eye and ear metal syringe, and I said, "Doctor, you had better take the name of this syringe down and get you one." And he said, "Oh, no, I don't want it." So I used a few syringes full of hot water, three or four, and it popped out with hydraulic pressure, three or four feet.

A man brought a child to me, twenty-five years ago, with a cotton-seed in the ear, and said, "All the physicians of Edgefield have tried to get the cottonseed out of this child's ear." It was partially decomposed. I did not have chairs enough in the room to accommodate the number of Edgefielders who came in to see the great surgical operation. They stood around the wall. I got a surgical syringe and out popped the cotton-seed that had been there six years (they said) with hydraulic pressure. One man said, "Boys, I be d——! It is all in knowing how to do it."

This case up the road I was called to see: A general practitioner should not be gouging into the ear to take out foreign bodies. They should just use the syringe and warm water. In two weeks I was called back to see this child, about ten years old, and the doctor had diagnosed typhoid. When I saw the child it had meningitis, which was followed by death, caused by gouging into the ear.

Dr. Joe Earle, Greenville, S. C.

I found one case where it failed. A case of foreign body in the ear, a cow tick growing in the ear. I had to revert to some other treatment.

Dr. Houseal: In nearly all cases you will have to have other manipulation, as Dr. Porcher has told you.

Dr. Porcher: When the corn has swollen so, you cannot get behind it.

Dr. Mauldin Closes.

Mr. Chairman, I appreciate the liberal discussion that has been made of this paper. I want to say to Dr. Carpenter that I did not state that I successfully removed any foreign bodies by blowing into the mouth. I unsuccessfully remove those foreign bodies in this way. I wish to impress that fact upon the audience. I want to say, also, when these patients come to us they are nearly always pretty nervous and

always in some pain, generally because the foreign body, in most instances, has been gouged at or syringed at, and in case of peas and beans and such things, I find that they are usually swollen and the tissue about them is swollen, so that a syringe does not always remove them. I have gotten quite a number of foreign bodies out by syringing them out.

In regard to Dr. Porcher's case of a bug in an ear, I never knew of a bug hunting for beer in a man's ear. That man certainly did not live in Charleston in 1916, during Gov. Manning's administration. (Applause).

THE X-RAY IN THE DIAGNOSIS OF FOCAL INFECTION.

By R. W. Gibbes, M. D., Columbia, S. C.

THE importance which chronic focal infections take in the causation of systematic disease has just begun to be generally recognized, although attention was directed to it as early as 1789 by Eyerlen. The role they play in this causal relation is of striking interest to the internist and to the surgeon. Much evidence has been accumulated to show that the different forms of Bright's disease, arthritis, gastro-intestinal ulcers, cardiovascular degenerations, cholecystitis, appendicitis and many other diseases whose etiology has been obscure, owe their origin in many cases to chronic foci of infection. These foci where microorganisms lodge and multiply and then migrate into the blood stream, have been likened to submarine bases, from which a vicious enemy strikes out in many directions, carrying death and destruction to distant and helpless parts. In England the work of Paine and Poynton, and more recently that of Rosenow and Billings in this country, has thrown a flood of light on the subject. With the facts already established it is now possible to understand many conditions of altered metabolism which were hitherto closed books. Small local infections, which previously would have been considered of no consequence, are searched for in the most diligent manner. It seems then from the accumulated evidence an established fact that a large percentage of ailments, both acute and chronic, have for their cause some focus of infection within the body, which if located and removed, places the patient on the way to recovery, while if the infection is not removed, health can not be entirely restored.

I have been much interested in the study of focal infections in which various special workers have been active. Indeed, in this class of cases every portion of the body has attracted the most careful scrutiny, in an attempt to find the origin of the trouble. The eye, nose and throat specialist has been an early and diligent investigator and his domain has proven a fruitful field which some have thought he has exploited too well for his own gain. He has been unqualifiedly condemned by many for his enthusiastic activity and serene persistence in asserting that so many of the ills of humanity come from focal of infection. In the light of the new knowledge we know now that he has been diffident rather than overenthusiastic. However, it is to be regretted that he still too often looks upon the guilty tonsil as the only source of infection in his particular field and neglects other areas of equal importance. More recently emphasis has been placed on oral conditions as sources of systemic infection and the dental path has been thoroughly investigated. In the con-

Read before the South Carolina Medical Association, Charleston, S. C., April 19, 1916.

sideration of this subject it must be borne in mind that there may be more than one source of infection and every possibility should be thoroughly explored. When several foci are found it will be difficult to determine which is primarily responsible. The correct treatment, of course, involves the removal of all foci.

The X-Rays are of diagnostic value in detection of pyogenetic infections in various parts of the body—such as those that occur in the lungs, the gall-bladder, the appendix and the kidneys, but it is my purpose to discuss only the more important areas in which they are of most direct and special value. These areas are in the head and comprise the alveolar processes, the toothsockets, the mastoid cells and the cavities in the bones of the face and head which communicate with the nasal area. These are all favorite dwelling places for bacteria, especially those that have a tendency to change their characteristics, migrate and cause trouble in other localities.

Sinuses. The accessory sinuses are frequently seats of infection which are often overlooked and which not infrequently lead to conditions of lowered vitality and resistance. It is amazing to know how often this type of infection is treated for chronic gastric trouble and kindred ailments. A study of the shadows cast by the sinuses will furnish valuable information as to their condition. The sinuses in a state of health contain air, their walls are of very thin bone. Air offers but little resistance to the passage of the rays, while bone has a high degree of opacity. On the X-Ray plate, then, we find a marked contrast between the air containing areas and the surrounding bone. The rays will not supplant the already accepted methods of diagnosticating accessory sinus disease, but will be rather a supplementary help. An exudate within the cavities or cells, or any thickening of the mucous membrane lining them, will produce heavy shadows differing from those seen in the normal condition. Under this class, are the acute and chronic inflammation of sinus mucous membrane. Fluid within the cavities will produce a very dense shadow. Under this class, we have empyema of the sinuses. Chronic inflammation of the ethmoid cells is a common disease—so common that the roentgenologist seldom finds a case in which the cells are entirely free of infection. Fortunately, these cells drain well. Sphennoidal disease is far less common, but it is more pernicious and more difficult of recognition. Contrary to the general view, the interpretation of sinus conditions offers little difficulty to the experienced reader of plates, but the plates must approach the highest degree of technical perfection. In this particular sort of work the basing of a diagnosis on inferior plates will result in disaster and in loss of confidence in the value of the X-Ray method. In no other form of roentgenography is exact technique so important. I desire to reiterate here what I have contended for in other papers that the plates for sinus work must be stereoscopic. The single flat plate is nearly always worthless.

In a consideration of the roentgeneology of the head one must not omit the mastoid as a possible source of infection. Chronic suppuration of the ear may show so little evidence of pus as to be barely noticeable, and yet the mastoid cells may be infected, causing chronic intoxication. It is well to remember that intractable skin infections often clear up in a remarkable manner after the eradication of mastoid disease. This is notably true in some forms of eczema.

Quite recently our understanding of

the relation of focal infections in the head to certain diseases of the eye has been greatly simplified by the use of the X-Ray. An enormous volume of evidence has been collected to prove the very marked influence which hidden foci exert upon the integrity of the eye. This evidence is giving us new views of the nature of certain inflammatory diseases of the organ. With a more careful search for foci the oculist will often be astounded at the rapidity with which some grave disturbances of vision, particularly those associated with the uveal tract, clear up when the foci have been found and eliminated.

The Dental Path.—Experience has shown that in no other branch of medicine can the X-Rays be applied more usefully, or with more graphic effect than in the detection of diseased conditions about the teeth. Only a few years ago this use of the ray was looked upon as a mere fad, and was only resorted to in isolated cases, but increased knowledge has proven its utility, and at present, it is regarded as of extreme value to the internist who desires to make a real diagnosis, and also to the dentist who does not prefer to sacrifice the safety of his patient to his own mechanical skill. In the search for a certain type of abscess which forms about the teeth it is positively the only agent that affords any aid. A recent writer of the dental profession enumerates a list of no fewer than sixty-four conditions in which he has found the rays of value, and even this list can be easily added to. I feel that the recognition of the etiologic relationship of mouth infection to systemic disease, tardy tho' it has been, is one of the signal contributions to medicine. Another writer on this subject has recently said that with the recognition of this causal relation the vista of a new era in medicine opens before us. The dentist may no longer with complaisance consider the ingenuity of his art to the exclusion of accepted surgical procedure, nor may the internist rest content with such pseudo diagnosis as articular rheumatism, arthritis deformans, hypertension and other conditions due to infectious origin until he has exhausted every diagnostic resource to determine the primary focus in various parts of the body."

Infection about the teeth is exceedingly common. The technical advances made in dentistry during the past quarter of a century, with improved methods of crown and bridge work, has stimulated efforts at the saving of dead teeth that otherwise would have been consigned to the forceps. The effect of this improved technique has been to educate the public to demand that all roots be saved, no matter how decayed they may be. The conscientious dental worker must grasp the new idea and endorse it by doing all he can to prevent apical infection, and cooperate in its eradication. A tooth for a tooth, an eye for an eye, as was laid down by the writer of old, but a tooth for an eye, a joint for a tooth, or for all the teeth, would be a preposterous barter.

Dr. H. L. Ulrich, of the University of Minnesota, has called attention to a large group of cases whose radiographic picture is that of a peri-bronchial infection, resembling tuberculosis, but differing from that in certain marked particulars. In these cases the main difference seem to depend upon the manner of invasion, the streptococci being disseminated by the blood stream, while the tubercle bacilli follow the lymphatics of the bronchial tree. Other investigators following up this work found dental abscesses in so many instances that they began to regard such conditions as cases of peri-

bronchial streptococciosis—a nomenclature suggested by Dr. Ulrich. Similar processes in the lungs are often observed when the streptococcal infection proceeds from the tonsils. Two years ago in a large number of roentgenographic studies undertaken in collaboration with Dr. J. H. Gibbes this condition of peri-bronchial streptococciosis was observed and noted by us. After a great deal of experience we felt that we were able to differentiate this type of infection from that caused by the tubercle bacilli.

In the study by Dr. Ulrich referred to, an effort was made to correlate mouth sepsis with systemic lesions, and the X-Rays were used for the detection of dental abscesses. He found that over 68 per cent. of all artificially devitalized teeth had apical abscesses, and the total number of abscesses, including those found in pulpless teeth, was 83 per cent. In the examination of 500 cases, 1380 dead teeth were found, and of these, 976 had root canal fillings. Of these, 159 cases with apical infection had bacterial study, and of 107 cases from another clinic, 100 showed the presence of Streptococcus Viridans. Hartzell maintains that the dental tract is commonly infested with the deadly Streptococcus viridans, not only the superficial tissues immediately about the teeth, but all dental abcesses.

Ulrich prefers to regard the apical abscess, not as a primary focus, but merely as another evidence of streptococcal infection, just as the heart, the mucosa of the stomach, the joints, or the tissues of the blood vessels give evidence of metastatic deposits. In other words, he regards the infection as hematogenous. Elaborate arguments have been advanced by Hartzell, Henrici and others to show that the infections that occur in the dental tract usually enter by and through the gum crevices, venae, lymph spaces and root canals when opened by careless operative work. Dr. Ulrich gives a recent analysis of cases which demonstrates the great practical importance of dental abscesses. Of 76 cases in which streptococci from tooth sockets were found, 38 belonged to the rheumatoid group, 6 cases to the cardio-vascular group, 3 to the asthenic, 4 to the gastro-intestinal, and 2 to the genito-urinary. This adds much to the importance of tooth infections, as they are not only portals of entry for bacteria, but places in which they become pathologically specific for certain tissues. As Ulrich well says, "The apical abscess may be the only focus left and may hold the balance of power in the body in its struggle for complete ste ilization." Pyorrhoea alveolaris is one of the serious diseases of the mouth. It probably causes more chronic systemic disturbance than any other oral condition. In pyorrhoea we not only have lateral abscesses, but the apical abscess as well, and from the large ulcerated areas caused by this infection micro-organisms gain ready entrance to the system thro' the blood stream and the stomach and destroy the body's equilibrium in one way or another. An adequate idea of the exterior local ravages of this condition can hardly be obtained without the aid of the ray*.

Interpretation.—A word now concerning the interpretation of dental roentgenograms, and the appearance of pathological conditions as disclosed by the X-Ray. Infection may be evidenced in the form of the small, blind abscess or the larger bone abscess, or even larger areas that have undergone cystic degeneration, and perhaps involved a large number of teeth. An abscess in the alveolar process appears as a darkened area, which is the result of decrased density in the bone, and

indicates distinctly what inroads have been made on the body of the tooth. The length, direction, and point of evacuation of sinuses are traced by the break in the normal appearance of the cancellated, osseous structure Necrosis, by a rarefaction and an irregularly eroded appearance of the bone. A low grade osteitis is very readily shown. Destruction of the peridental membrane when shown, is evidence of local infection. The teeth being of great density show a pronounced contrast with the less dense bone tissue of the jaw. The X-Ray film is an accurate photographic record of the variations in density of the tissues traversed by the rays. The rays obey fixed laws, and when there is error from their use, it is due to the inaccurate use of them, or to the one who interprets them. It is now my practice when a case having symptoms of systemic infection is referred for an examination of the teeth, to roentgenograph every tooth, and to do it on small films. Five films are used for the upper teeth and the same number for the lower. This procedure necessitates ten exposures. It is often difficult to avoid distortion. Hence it frequently becomes necessary to make a number of roentgenograms at various angles of projection. To avoid error one must be sure that the parts appear in their correct relations to the film. The number of unsuspected abscesses disclosed in this way is amazing. The incredulity at first displayed by our friend, the dentist, and later, his dismay, when he views the final results, are entitled to our deepest sympathy. I desire to present some conclusions drawn from my own experience:

1st.—Pyorrhoea Alveolaris, the most important of the oral infections, is a surgical disorder and is not amenable to local or systemic medication.

2nd.—That infection of the antra, or other accessory nasal sinus, is very often due to a root abscess, and when such determination has been made, the root must be extracted.

3rd.—That infection takes place about the roots of live teeth, but not so often as around devitalized teeth. This view is at variance with the opinion of some dentists who insist that the live tooth is immune.

4th.—That teeth with completely filled canals are rarely seen, and when found, they seem almost as susceptible to microbic influence as the incompletely filled canals. That a root supporting an artificial tooth by means of a pivot is nearly always a source of infection.

5th—That there is a close analogy between the ordinary bone abscess with a sequestrum and a dental abscess with a dead root. It is just as unsurgical to neglect the root as to neglect the sequestrum.

6th.—That there is a striking frequency of tooth infection and tonsillar infection in the same individual, and that this frequency suggests the hypothesis that in many cases the infection takes place primarily in one locality and is then transferred to the other. Cases of recurrent tonsillitis and pharyngitis should have careful dental inspection.

7th.—That the throat surgeon should investigate the condition of his pateints' teeth before operating on the tonsils, and unless he has assurances that the teeth are free of infectious disorder, or that they will have radical attention after his operation, he will often be disappointed in the systemic results he hoped to secure by his operation.

8th.—That the relations between physicians and dentists should be reciprocal, and that such relationship would be of great benefit mutually and would redound to the benefit of

humanity in whose service we are co-workers.

Finally, I wish to express a sense of my deep obligation to Dr. Heyward Gibbes and Dr. E. M. Whaley, of Columbia, for the large volume of work they have placed in my hands for study. Their advanced conception of metastatic infections and their splendid co-operation have simplified the labor of interpreting and correlating results.

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Hartzell—Ibib.
Bissell—Jour-Lancet. 1915.
Hartzell and Henrici—Surg. Gynecol. and Obs., Jan., 1915.

ADDRESS OF FRATERNAL DELEGATE FROM STATE DENTAL SOCIETY.

P. D. Brooker, D.D.S., Columbia, S. C.

Gentlemen:

AT the last annual meeting of this society you appointed a delegate to the annual meeting of the State Dental Association.

I am here today to assure you of the sincere appreciation and gratification with which that delegate was received upon that occasion, and to accept for the Dental Association of South Carolina the implied invitation that a more cordial and fraternal relationship shall hereafter exist between the two societies, and to voice our readiness and our willingness to co-operate and co-ordinate with you in the advancement of our highest professional aims—that of the more thorough protection and care of the health of the people of South Carolina.

While this exchange of delegates between the two organizations is epoch making, somehow we are not strangely excited by it, because it is but the natural outgrowth of recent developments, that emphasizes our mutual dependance upon each other, particularly so in cases in which the mouth and teeth bear such a close relationship to general conditions and in which general conditions may have serious manifestations in the oral cavity. It is a matter of regret that such relationship should not have been established long ago as we would possibly have avoided in large measure some of the conditions that are causing considerable embarassment to both of us at the present time.

You have in the past, held that the dental profession was of little importance as a department of medical practice, and on our part we have been intent upon the mechanical perfection of dentistry to maintain and restore the mouth and teeth to their maximum of usefulness as a masticatory apparatus, and have given comparatively little attention to the broader field of our professional work in its relationship to the general health of our clientele.

Personally I have been using every opportunity during the past few years to induce a better understanding between the two professions in our section so that our efforts in behalf of our patients should be harmonious. At the same time I have been trying to take the people more into our confidence, because in the end, if we are to make progress in our advanced ideals for the protection of the public health, however efficient we may become in the practice of our profession, we know that the most of it is up to the people themselves, and unless we can induce them to adopt the scientific principles of right living, and correct mental and physical attitudes toward the preservation of their own health

Read by title before the South Carolina Medical Association, Charleston, S. C., April 20, 1916.

we won't have the opportunity to be of service to them until in many instances irreparable damage has already been done. In our last annual session an entire section of the program was devoted to 'Medical Relationships'', and so far as I have been informed it is the first time that such a section has been introduced into the program of a dental meeting. Another entire section was devoted to public instruction, and we brought to Columbia upon that occasion two of the strongest men in the country to address the public upon the proper regard for their mouth and teeth.

The remainder of that program was devoted to a consideration of the three immense problems that have been handed us in the last few years: ''The safe-guarding of the health of our children from the influence of oral conditions.'' ''The proper treatment and care of roots, canals and abscesses,'' and ''Pyorrhea''—not as pyorrhea has been formally considered, for the most part, by the dental profession, the mere preservation of the teeth, but the problem it presents as a cause and effect of general systemic disturbances.

These three problems are a large order for the dental profession to deal with all at one time, as each one of them will of itself require radical and strenuous attention and we are going to ask a little patience and forbearance upon the part of the medical profession for awhile, until we can effectually devise their solution. And on the other hand we are going to ask that you do not be too hasty in making demands upon us, until scientific research and clinical data will have established that our old and proven principles of practice as they relate to these conditions are ineffectual, and will warrant our discarding some of them in favor of new methods. The acceptance of hastily conceived theories, until they have been thoroughly established in a scientific way, and thus holding out false hopes to the professions and the suffering public, is a serious mistake and will bring discredit upon the professions.

Such a mistake was made last year in the problem of pyorrhea, and while you are apparently warranted in your present demands for the wholesale removal of teeth with apical infections and disturbances, I wish to assure you today that this subject is not as hopeless as it appears and that it is possible to save a large majority of these teeth, even after they have become diseased at the apical end of their roots, and they can be restored to usefulness in perfect health and comfort, by a little more thorough and universal application of our present advanced methods of caring for them.

This problem in its present aspect is comparatively new to dental students, and statistics are scarce as to the real extent of improperly cared for root canals and the manner and nature of infections at their apical ends, but we do know that a large percentage of teeth from which the pulp has been removed have been improperly cared for and that in many instances there is left a danger zone in the apex of the canal in which the propagation of disease germs may take place. On the other hand we are assured by such men as Dr. Callahan, Dr. Rhein, Dr. Ottolengm and Dr. Greives that more than ninety per cent of devitalized teeth can be properly treated and properly sealed at their apical end, thus precluding the possibility of their becoming a source of infection. In many other instances where it is impossible on account of the malformation of the roots of teeth, to open them up and seal them at their extremity, surgical amputation of the

distorted portion of the root is practical.

The methods of these men are being adopted as rapidly as possible and I have no doubt that very soon there will be men in every community of South Carolina who are capable of preserving in health the great majority of teeth which you are now condemning.

I beg you to remember in this connection that from the standpoint of general health and efficiency, your patient needs his teeth and that there is not a more serious strain upon the vital resources of your patient than his inability to properly masticate his food. After they are gone, artificial substitutes are but a make-shift at best and cannot by any manner of means be made as useful as natural teeth. Therefore I hope you will remember that an immense responsibility rests upon you in demanding the removal of a patient's teeth sometimes merely on suspicion and a large responsibility rests upon us if we refuse to take out those teeth that are under suspicion as the cause of some serious apical disease.

In this connection the care of children's teeth forms the most serious problem confronting the dental profession today, and every day new statistics are proving the immense drain upon the vital forces and the development of permanent character, among the children of graded school ages, who have defective teeth.

The uselessness of the teeth, their discomfort in mastication, the unsanitary condition of an unclean mouth, and the peri-apical infections of diseased and decayed teeth are not only a serious menace to the health and development of the possessor of such a mouth, but each of such mouths becomes a menace to an entire community. There is no more ideal medium for the propagation of the germs of contagious and infectious diseases than an unsanitary mouth and these germs are breathed out, sneezed out, and coughed out into the home, and into the school room, and while you are searching the premises for cess pools, and sterilizing their foods, the progress of disease goes merrily on and will continue until we have properly guarded this wholesale source of reinfection. We can do little to remedy this condition by methods of restoration after certain stages have been past, and the only general measure for the relief of this condition exists in the thorough and constant application of prophylactic measures.

We ask your co-operation in educating the public to its necessity of the better care of children's teeth and in the establishment in our schools of the means of giving each child an opportunity, and teaching it effectual measures, for properly cleansing the teeth and mouth at least once a day.

We are making progress in Pyorrhea slowly, but until we can establish more definitely the exact causes of pyorrhea in its various manifestations, our progress will continue to be slow.

Our present reasoning upon this problem is that pyorrhea is due, in a general way, to the instability and easy degeneracy of the gum structure and that any irritation or infection at the gingival margin lowers resistance and forms the primary cause of pyorrhea. Therefore, we are recommending as the first principle in the treatment of pyorrhea methods of stimulating and strengthening the resisting forces of the gums, mainly by massage.

The elimination of the irritant if it be mechanical, such as tartar or ill fitting dental work, is imperative, and such irritants must be kept away.

No treatment for pyorrhea will be in any measure effectual as long as there are deposits upon the surface of the roots, and such deposits must be carefully and thoroughly removed. When we have taken these two precautions the methods to follow are so various that it would be useless for me to hazard an opinion as to the most effectual. They consist mainly of various methods of sterilization, and probably the foremost man in the United States on pyorrhea is Dr. Hartsell of Minneapolis, Minn., and he used an autogenous vaccine. Numbers of the best men in the country, however, are accomplishing splendid results with local sterilizing agents.

I wish to state in regard to the recent extensive enthusiasm over the treatment of this disease with emetine that the scientific research committee of the National Dental Association has been unable to establish any basis for the belief that the amoeba buccalis is the cause of pyorrhea. Dr. Hartsell says definitely and positively that it enters in to the consideration of pyorrhea to a very limited extent.

In conclusion I wish to call your attention to a class of cases that has given me an unusual amount of trouble during the last year or two and which, without your co-operation, cannot be handled successfully. It is a very persistent and serious form of mecurial stomatitis that produces a lowered resistence in the mucous membranes of the gums, and is caused by the continuous administration of mercury. One of the most serious of these cases and one of the most puzzling I have encountered was that of a lady who insisted during several engagements that she was not under treatment and that she had not taken even a dose of calomel for a year. It finally occurred to her to tell me that some days before the inflammation had started in her mouth, her physician had given her a salve for eczema. She was still using this salve when I had her under treatment and she was getting very serious results merely through inunction, and the condition of her mouth was very bad.

Various other cases have come under my observation, usually being referred to me by a physician, who didn't realize that the oral manifestations were the results of his administration of mercury. The manifestations of this trouble are violent inflammation of the mucous membranes of the mouth, followed by severe ulceration and pocketing at the gingival margin of the gums. These conditions persist sometimes for a long period after the administration of the mercury has been discontinued.

A marked peculiarity of this disturbance is its apparent resentment of the gold work in the patient's mouth, and a polarization appears to form between the two metals which causes the inflammation to be much more severe in the region of a bridge or a gold filling. In a number of cases the inflammation has been so violent under a bridge that it would almost be buried in the inflammed tissue. Curiously, in other parts of the same mouth where there is no metal work the gums will take on the appearance of very little more inflammation than a pronounced blueness of the gums.

This condition will not be permanently serious if the administration of the mercury is discontinued early enough and the gums given proper treatment for a few weeks and an approximately normal condition may be restored. When the administration is persisted in however it becomes serious with chronic septic conditions around the teeth like pyorrhea and which will eventually cause the loss of the teeth.

I mention this in order that you may be able to recognize it when you see it and to help us to guard against the more serious results from it.

MINUTES

MINUTES SCIENTIFIC SESSION, SOUTH CAROLINA MEDICAL ASSOCIATION.

Charleston, S. C. April 18 to 20, 1913.

The Association was called to order on Wednesday, April 19th., in the Assembly Room of the New Charleston Hotel.

The President: The South Carolina Medical Association will now come to order, and we will have divine invocation by the Rev. John Kershaw, of this City.

The Rev. John Kershaw: Oh God, our Heavenly Father, we pray Thee to look down in mercy upon this assembly and give it the inspiration of Thy presence. Bless the efforts of these, Thy servants, for the promotion of the health and welfare of Thy people. We thank Thee that by Thy guidance they have been able to do much for the amelioration of the suffering of mankind among all nations. We thank Thee, also, for the spirit of compassion and sympathy that animates so many of these Thy servants to become workers with Thee, and to exercise Thy healing art on behalf of so many sufferers, without money and without price.

Let Thy blessing rest upon them, we beseech Thee, for these manifestations of the qualities of mercy and pity. Direct them in all their doings with Thy most gracious favor and further them with Thy continual help, and at last open to us an entrance to that Heavenly kingdom where death shall be no more, neither shall there be any more sorrow, nor crying, nor pain.

We ask it all in the name of Thy dear Son, Jesus Christ our Lord.

Amen.

The President: We will now have an address of welcome by Mayor T. T. Hyde. (Applause).

Mr. President, Ladies and Gentlemen:

It gives me great pleasure, in representing our city, to welcome you here this morning.

The City of Charleston, almost throughout its history, has been doing its best for the betterment of mankind in medical science. You will find in years back always a hospital here, where the very best doctors of this city have been giving their services day and night for the care of the poor of our community. The City has been co-operating with them. Then, later, we have built the Roper hospital, the Bakers Sanitorium and Riverside Hospital; so that we have been intensely interested, as a community, in the development of the lines along which you are working, and we appreciate more than we can tell you the contributions of the various physicians throughout the State.

Then we have the establishment of the Medical College, which we appreciate very much indeed, and we are co-operating with them and endeavoring to make it a success. It is a matter for congratulation that this is now a Class-A institution.

We are delighted to have you, because we are joining in a common work. We are also glad to have you because we have always had on our health board and everything we have been trying to do here the co-operation of the physicians throughout South Carolina; but, best of all, we appreciate the motive that brings you to our city. You are here to confer with each other for the betterment of mankind.

The Medical profession is perhaps the only profession that has no patents on its discoveries. You come here unselfishly to give mankind the benefit of all that you know. So that it is the one great unselfish profession, and for that reason we are delighted to have you here this morning, and we think that in your mission in the world you can only be likened

unto him who went about doing good, and who came not only to minister, but to do good to mankind throughout the world. (Applause).

The President: I now introduce to you Dr. Lane Mullally, on behalf of the Medical Society of South Carolina. (Applause).

Dr. Lane Mullally:

Mr. President, fellow members of the South Carolina Medical Association, ladies and gentlemen:

On behalf of the South Carolina Medical Society, not in a formal way, but warmly and sincerely, I welcome you today.

Permit me to extend to you and to the various ones who have accompanied you cordial hospitality.

In no spirit of conceit, but in all modesty, do I say that not only do we take an honest pride in our city, her customs, her traditions, and her citizenship, but especially are we proud of the fact that we have endeavored to raise the standard of medical education in the State of South Carolina to that high plane which it so richly deserves, and we feel that our efforts have not been in vain. Hence it is that we are proud to have a body of men such as compose the South Carolina Medical Association visit our city, and especially is the Medical Society of South Carolina honored to have you as our guests.

Let me say that we are in full accord with the objects and aims of your coming, and we know that we will be benefitted by the experience and the observation that is brought by each of you from the various sections of the State.

I trust that your stay in Charleston will be as pleasant and as profitable to you as it is to us, and when your work here is completed, may you carry away with you the purpose to return again, for I but express the sentiment of each member of our Society that when you come again we will greet you with open doors and open hearts.

Again I bid you welcome—yes, thrice welcome! (Applause).

Response by the President,

Dr. G. A. Neuffer:

Charleston has been attacked at various times and by various forces. At this time you have the medical fraternity —the doctors—of the State, upon you. Whether their attack will be successful, or whether you will withstand them, remains to be seen; but I am reminded that like the attack of Sir Peter Parker in days gone by, during the two days we have been here we have certainly been on the water route! (Applause and laughter).

Gentlemen, it is like coming home, to a great majority of us doctors, to come to Charleston. A great majority of us received our medical education here, and in visiting the city and walking over your beautiful streets we are reminded of our college days, when, as young, care-free students we slipped out in the moonlight and sat on the battery and enjoyed ourselves, or when we were tired of our lectures during college hours, we would slip out and sit on the hard benches.

It is a pleasure to us to come to Charleston, and our minds travel back to the days when we attended the medical college and sat under the teaching of such men as Drs. Frank Parker, Michel, Kinloch, and so many others. It does stimulate us in our studies and in our work, and we are glad to be here.

Then we bring our minds down to the present day and we are still proud of our college. We feel that the State of South Carolina has a medical college that stands the peer of any medical college in the country. The teachers are the equal of any other teachers, and the graduates they are sending out are well-fitted and are earning success in their profession.

Gentlemen, on behalf of the South Carolina Medical Association I thank you for your cordial and warm welcome, and assure you that we appreciate the hospitality and the kindness which the good people of Charleston are showering upon us. (Applause).

Dr. Cathcart: Gentlemen, at 1:30 there will be a luncheon and inspection of the State Medical College, corner Calhoun and Lucas Streets; from 2:30 to 5:30 there will be clinics at the Roper Hospital. After the clinics the sessions will be resumed in the auditorium of the medical college.

To-night at 9:30 there will be a general reception in the dining room of this hotel, in honor of the State Medical Association and the accompanying ladies.

This afternoon, for the ladies, only, at 3:00 P. M., there will be a trip to Magnolia Gardens, which leaves the Consolidated Wharf at the foot of Cumberland Street. There will be a committee of ladies at the hotel and at the wharf, to take care of them. The badges that have been given to you will admit the ladies on this trip.

Tomorrow morning at 11:00 o'clock there will be a trip for the ladies to the Isle of Palms.

Dr. Kollock asks me to announce

that the directors of the Charleston Museum, which is about two squares this side of the Roper Hospital, on Rutledge Avenue, will be pleased to have you visit the museum.

The President: Gentlemen, it is my pleasure to tell you that we have with us this morning one who, in his official capacity as well as his personal sympathy with all good work, has been of inestimable value to the State Board of Health and to the medical profession, in furthering and assisting all their efforts for disease prevention and the advancing of medical efforts along all State lines.

I take great pleasure in introducing to you Governor Manning of South Carolina. (Applause).

Governor Manning:

Mr. President, members of the South Carolina Medical Association, ladies and gentlemen:

I desire, at the outset, to thank you officially and personally for your courteous invitation for me to address you this morning.

I desire to say it is a pleasure always to meet with such a body of South Carolinians, and when that body meets in this old City-by-the-Sea, whether we are here by the water route or otherwise, it is good enough for me. (Applause).

The address of your President this morning, on the matter of preparedness, is certainly a very illuminating one and most gratifying, and when I took up the paper this morning and saw the great, big headlines that probably the break with Germany was to come to-day, and that the President was to address Congress at one o'clock, on the foreign relations, I must admit that I felt that instead of talking to you along the usual lines that might be expected on this occasion, that I might possibly get busy and call for those who were ready to assist in the medical corps! (Applause).

But, gentlemen, we have seen these headlines before. We have been told of these grievances but they have passed by, but I want to say to this assembly that I believe this country is now witnessing a serious situation that may possibly—and probably—result in a crisis.

I believe that "'Watchful waiting" has gone as far it can, and I am sure that I voice the sentiment not only among the medical profession but for the citizens of South Carolina, that if that crisis is upon us, South Carolina will stand behind the President, and while we want peace, we want peace only with honor, and we will be ready to stand for the honor and integrity of this country behind Woodrow Wilson. (Applause).

I must admit that in thinking of what I should say to you (I have no prepared address), that I have been in the position of any layman who is to address a body of professional men. I know that I cannot tell you anything that you do not already know along professional lines, and if I were to undertake to talk about the lines that I am most familiar with—along agricultural lines—why, last night one of my doctor friends said that I could not talk about anything that would interest him more; but I am sure from my experience that I have found all my life, if I were to try to talk along these lines to professional men, I could not teach them anything. But in educational lines, I feel that is a wide field.

I must say that in speaking to a South Carolina audience, one of the things uppermost in my mind is the subject of the enforcement of law, but in the results that have been obtained I do not think that is necessary to a body like this. They are the teachers of law,—whether that law is the civil law or whether it is along the lines of sanitation or what not. But, gentlemen, I believe that South Carolina is coming to that stage and that point in her development where reverence for law is going to be taken as a matter of course, and we will be able to turn from that subject and turn to constructive questions for the upbuilding of our State. (Applause.)

I might, if I were to follow what has been most in my mind lately, speak on the question of insurance, but I am going to shy away from that subject, but I want to say that I am glad of the opportunity to speak to any body of South Carolinians who I regard as factors in the upbuilding of the State. I am sure that in thinking of the different classes of those who have dedicated their lives to service on this line, that there are none who stand ahead of the medical profession. I am sure that you, gentlemen, in dedicating your lives to this kind of service are contributing to the uplift of South Carolina in the way that few others can do. I want to say to you that I have approved and signed every bill that has come to me that has been passed and endorsed by the Medical Association of South Carolina. (Applause). And while there are bills that have not yet come to me, I hope in my administration to see on the statute books certain of the bills which you have endorsed.

I had the request the other day to vote the bill provided for the Wasserman test. Of course it is my practice, whenever I have a request for a hearing, to grant it, no matter what the conditions are. That bill had been passed by the legislature, and those interested in it wrote for a hearing immediately before I signed it. I gave the hearing and I want to say right here that I stated to the party who was most interested in it that

I thought he had a wrong conception of the veto power and I wanted to take that occasion to say to him that my conception of the veto power which is lodged in the hands of the Governor is not to register his difference of personal opinion from that of the legislature, but to use it in the case of a plain violation of the Constitution of the State, or where facts have been brought out that were not in the possession of the legislature.

So when the thing has been considered in the committees and discussed on the floor of the house or representatives and of the State senate, I feel that then it is incumbent upon the Governor to sign the bill.

I state this in passing, that you may know what my attitude in these matters are, but further than that I want to express to you here and now my approval of the views as I see them expressed by the medical profession, looking to improving health in South Carolina.

We can no longer be satisfied to do simply what our fathers did. You all have heard the old story which happened in North Carolina in a Republican stronghold. When the precinct chairman called this meeting to get ready for the coming campaign, he got up to make the audience a speech, and began to declare his faith in Republican principles and doctrine. As he spoke along he got more and more enthused and finally he said, "I dare any man in this audience, if he is a Democrat, to stand up." A slim, young fellow, about twenty-two, stood up. He said, "Young man, what are you?" He said, "A Democrat." He asked, "Well, young man, why are you a Democrat?" "Well," he said, "my father was a Democrat, my grandfather was a Democrat, and my great-grandfather was a Democrat." "Suppose, young man," he said, "your father had been a fool, your grandfather had been a fool, and your great-grandfather had been a fool, what would you be?" He replied, "A Republican." (Laughter.)

So we are living in a time of development, of progress, and that progress is coming along the lines of the spread of Democracy. Time was when few controlled the policies of government, not only abroad but here, but you have seen how, with the increase of the electorate, the spread of that has come the spread of Democracy, and so with that spread has come an increase of reponsibility on each individual citizen; each man with the ballot is to determine not only his choice of candidates but actually the policy of this government.

So you can see the great questions that come before us, whether they are of health, of agriculture or of anything else; you can realize how difficult it is even for the trained mind to realize what is best as a government policy, because all these questions have two sides. Therefore it takes the trained mind, the mind capable of analysis and of describing what is good and bad in these questions, and the question of education is of the greatest importance to government.

You can readily see, therefore, how this change has come. No longer is it the three R's that are required, but education has become comprehensive and affects our business, our surroundings and our lives, and if we are to consider the improvement of the citizens as a safeguard of the government and of society, we have to consider him not only in the matter of his mental training, but as a well-rounded citizen in his three-sided development—body, mind and spirit; and the fundamental thing to start on, of course, is the body. You cannot teach an old dog new tricks. It is hard to get old people out of ruts; so, gentlemen, the necessity for starting with the child is the duty that is incumbent upon us (Applause) if we have due repard for the future citizenship of our State.

And so this bill that is before the legislature for the medical inspection of school children is one in which I am deeply interested. I believe that that bill will finally pass. I want to state to you that it passed the House, was on its passage in the Senate, but was there, for some unaccountable reason, held up. I desire to say that I went upstairs to see members of the senate and to urge it upon the attention of the senate, so that it could pass that body and come to me for my approval. It is one of the measures that I advocated in the inaugural address, and also, in a special message, and it was a deep disappointment to me that that bill did not come to me for my approval and signature. (Applause).

Now, gentlemen, I want just to stress one or two points upon you: I realize, gentlemen, the value of the work of the Board of Health. I wish to see that in following the work throughout the different localities of the State, as described by your President, so ably described—that I can see still great fields of work for that Board. I feel, gentlemen, that in the cities and towns of the mill villages and in the rural districts, with our chain-gangs and jails, that there is urgent need for effective work.

I want to see the time come when the finances of this State will be able to be such as to comply with the views of the medical profession as to what the work of this Board of Health should be, and so to widen their scope, with the view of preventing disease. It is a difficult matter to reach out into the remote sections, and it is a difficult matter to get the people to adopt the recommendations that are made to them; and as I feel that that is one of the important matters.

Now, gentlemen, I want to say that the matter of education is going on apace in South Carolina. We are getting longer school terms, better school-houses and better equipment, and it is a matter of pride that I tell you that in the past year over four million dollars have been spent in the schools of the State. It is the record year in attendance; it is the record year in school work.

I feel simply enthused, as I go over the State, to see this spirit that has been aroused; the spirit of interest and determination to have better schools and better facilities for education. It is the most hopeful sign that I see for the future of our State. My only apprehension is that it may have some backset or be too good to last. It reminds me of the English charwoman whose husband was at the front. She had an allowance of a pound a week, and she was asked what she thought of the war. Her reply was, "The war! and no 'usband? It is 'Evan. It is too good to last!" (Applause).

Gentlemen, I want to say to you that one of the greatest needs is greater efficiency in the teachers, and so I am advocating a State Board of Examiners of Teachers. I stand for those steps of progress, and for everything that is going to advance the education of the people, and efficiency in the schools of South Carolina.

Now, if that is true in the common schools, I want to call your attention to one important fact about the medical profession. I realize, gentlemen, how you stand. I realize the work that you are doing. I do not campare the political leader, the great scientist, or the skilled worker in any of these great lines to the noble work that is done by those men who spend thier days and nights in going out and in coming in among the people, in their effort to uplift them and to give them health and strength in their bodies, but I feel that the great agency in this State for the higher standards among the medical profession and the better service that they can do, is to enlarge and widen and make better the scope of the work done by the Medical College of Charleston. I stand, therefore, as a supporter of that institution, and I want to assure you that my efforts shall be to see that that institution has adequate support so as to ever widen its sphere of usefulness and value to the people of the State. (Applause).

Now that isn't simply stating a fact here that might be pleasing to the medical profession, but I want to say to you that right along behind that comes another suggestion which I want to make to the medical profession of the State. I want them to relieve their minds of the fact that their education of the people is simply along the lines of health and surgery and medicine. The better work they do as doctors, the more work they can do for the health and sanitation of the community, and the better their opportunity for educating the public sentiment along different lines.

You know, gentlemen, the trouble you are confronted with, as your President said, about instructing and advising the members from the General Assembly from your different counties. You know that the great question that besets you always is the question of money, but that question of money is connected with taxation, and therefore it is incumbent upon you to see that such questions as assessment and taxation are understood among the people and they are helped to solve it, because, when we reach a point when the assessed property in South Carolina casts the burden of taxation more equally, then will that surplus be given to the medical college of Charleston, to the State Board of Health, and to all other uplift work in this State.

So I appeal to you in these matters of improvement, of development, education and sanitation, to be the missionaries you are, and I assure you that never have these leaders been needed more than at the present. Doctors are trained in matters of health to take up these questons. So, gentlemen, I appeal to you to go into this field with that sort of spirit, with the light of experience behind you,—sane and safe leaders in all this work. I am sure that you are doing it. Bu I am sure that as your services are exended you see more and more the need of it.

In all these matters I simply wish to co-operate with you, for, after all, education, in its last analysis, is the problem of the betterment of the race. It is to that problem that I assure you of my co-operation and wish you God-speed in the work that you are doing. (Applause).

THURSDAY MORNING SESSION.

The meeting called to order by the President.

The President: The Supplementary members of Committee on Medical Practice Act appointed is as follows:

Doctors W. J. Burdell,
J. L. Folk,
Robert S. Cathcart,
R. T. Ferguson,
R. E. Hughes,
Wm. Weston,
Wm. Eggleston.

Dr. Brailsford: I wish to make a motion, that the following named gentlemen, and all other visiting phyicians be extended the privileges of the floor:

Doctors Wm. J. Mayo,
Lewellys F. Parker,
William H. Price,
Joseph Leidy.

Seconded and carried.

Closing Exercises, April 20th.

Dr. Gambrell: Mr. President, I desire to make a motion: That all the remaining papers on the program be

read by title, and handed in to the Secretary for publication in the Journal.

Motion seconded and carried.

Dr. Brailsford: Mr. President, I move that a vote of thanks of the Society be extended to the Charleston County Medical Society, and to the ladies who have contributed to the entertainment of the ladies of this Society.

Motion seconded and carried.

Dr. Taylor: Dr. Horlbeck is practically dying, and I move that the President appoint a committee to draw up resolutions and send to Dr. Horlbeck.

Motion seconded and carried, and the President appoints on the Committee:

Dr. Taylor,
Dr. Weston,
Dr. Brailsford.

The President: It affords me great pleasure to turn over the duties and responsibilities of the Presidency for the ensuing year to Dr. C. B. Earle. (Applause).

Dr. C. B. Earle: It is with much trepidiation that I take up the duties where my distinguished friend, Dr. Neuffer, has laid them down. Well do I know the difficulties of carrying out these duties so ably performed by Dr. Neuffer and the many distinguished men who have preceded me in presiding over the duties of this Society. But, gentlemen, I desire to ask that for the next year you will give me that generous co-operation that you have given to Dr. Neuffer in the past year, and let us make the Spartanburg meeting the banner meeting of the Association.

Gentlemen, I thank you one and all for the great honor you have bestowed upon me. (Applause).

Dr Burdell: Mr. President, I desire to move that we express the thanks of the Association to Dr. Neuffer for the very able manner in which he has presided over the destinies of this Association during the past year.

Motion unanimously carried.

Dr. Neuffer: I thank you.

The President: Gentlemen, I desire to declare the sixty-eighth session of the South Carolina Medical Association adjourned.

PERSONAL AND NEWS ITEMS

Dr. C. B. Earle, President of the South Carolina Medical Association attended the one hundred and fiftieth anniversary of the New Jersey State Medical Society, the latter part of June, to which all the State Presidents were invited.

Dr. T. P. Whaley of Charleston, wishes to announce to the profession of South Carolina that he has returned to general practice.

Dr. R. G. Witherspoon, one of the oldest and most widely respected physicians in Anderson County died June 9th.

Dr. J. W. Curry, of Rome, Ga., has located in Greenville, limiting his practice to Surgery.

The Fourth National Convention of the Cremation Association of America will be held in Cincinnati August 24-25. It will be news to many that the United States has forged ahead of Germany in the leadership of the cremation movement. There are 53 crematories here as compared to 48 in

the Vaterland and two more are in contemplation, one at Salem, Mass., and another at Kansas City. We have also outdistanced Germany in the total number of incinerations, the figures being 86,006, up to the end of 1913, as compared to 76,350, up to the end of 1915. Statistics, recently published in "The Sunnyside," show there was an increase of 906 per cent. in the number of cremations in America in 15 years.

Dr. W. B. Lyles of Spartanburg announces that he has limited his practice to Urology.

Dr. R. J. Gilliland of Easley died on the night of June 25th, having been stricken with paralysis while attending one of his patients. Dr. Gilliland was 56 years old. For many years he was secretary of the Pickens County Medical Society.

Dr. M. W. Beach has located in Charleston, limiting his practice to The Diseases of Children.

The National Committee on Medical Preparedness has appointed the following Physicians and Surgeons:
Robt. S. Cathcart, Chairman.
Curran B. Earle, Prest. State Soc.
Edgar A. Hines, Sec. State Soc.
During Incumbency.
LeGrand Guerry,
Charles W. Kollock,
Lane Mullally,
W. W. Fennel.

SOCIETY REPORTS

ANDERSON.

On March 1, the Anderson County Medical Society held its regular meeting with an attendance of fourteen members.

During the business session several important matters were brought up and disposed of. One important question discussed was that of a revision of the fee bill especially in regards to obstetrical practice. It was thought by some that the fee for this work should be twenty-five dollars, this being where the patient could pay and where the patient had been constantly under the care of the physician. After quite a lengthy discussion it was voted that the Society go on record as favoring the Twenty-five dollar fee.

Letter from the chairman of the Baby conference committee asking for the co-operation of the physicians in the "Baby Week" was read. The Society heartily endorsed this movement and promised its assistance in the matter.

Dr. M. A. Thomson, having been a member of the Society for thirty years he was elected an honorary member of the Society.

The name of Dr. C. H. Young of Belton was proposed for membership and this was referred to the Board of Censors.

Owing to the lateness of the hour the Scientific program was postponed until the next meeting.

The mid-March meeting of the Society was held at the Hospital Wednesday, March 15, with eleven members present.

The following delegates to the State Medical Association meeting in Charleston were elected: Drs. C. F. Ross, J. R. Young, and J. C. Harris.

Dr. C. H. Young's name being favorably reported on by the Board of Censors he was elected to membership.

The Scientific program was next en-

tered into and consisted of some of the Cabot papers presented by Drs. C. F. Ross and H. H. Acker. These papers had been thoroughly prepared and were most interesting. There was a general discussion of these papers. The Society is finding the Cabot papers, suggested by Dr. Hines, to be of great benefit.

Dr. J. O. Sanders consented to take charge of the Scientific program for the second meeting in April after which the Society was adjourned.

Only one meeting of the Anderson County Medical Society was held during April, the mid-meeting being postponed as it conflicted with the meeting of the State Society at Charleston. The meeting was held Wednesday, April 5, with fourteen members present.

Dr. J. R. Young, chairman of the membership committee, reported that twenty physicians in the County who were not members of the Society had either been seen personally or had received letters from the committee urging them to affiliate with their medical Society.

The name of Dr. M. W. Webb was proposed for membership and as soon as he can receive his transfer card from the Aiken Society he will become one of our members.

The following program was carried out:

1. Post Graduate Work.—Dr. J. B. Townsend.
2. The Importance of History Taking and Physical Examination in Diagnosis.—Dr. L. Carl Sanders.
3. Business Side of the Profession—Dr. B. A. Henry.

After a full discussion of the above papers the Society was adjourned.

Alga V. Pruitt, Secretary.

PICKENS.

Our regular monthly meeting was well attended and unusually interesting.

Several clinical cases were presented, and the discussions were free and of such character as to be very helpful to the members generally, and especially to those who presented the cases.

The writer had on hand, a case of pellagra, in a child 20 months old, and whose mother also has the disease.

Dr. Jameson presented a case suffering from hemoptysis. Perhaps there was nothing very unusual about either case, but the interest taken by all the members showed that they were willing to dig down into the bottom of the knotty problems that continually confront us, and certainly made the contributors glad that they had taken the trouble to present the cases.

Dr. L. G. Clayton, in his usual happy style, extended an invitation to the society to meet at Central for our June session.

This invitation was unanimously accepted and committee was appointed to arrange a program for the day.

J. L. Bolt, Sec.

May 6, 1916.

CHESTERFIELD.

The Chesterfield County Medical Society held its regular monthly meeting at Cheraw, Thursday evening, May the 9th, at eight o'clock. After the usual routine of business, the floor was extended to our guest of the evening, Dr. J. M. Barnwell of Florence, S. C., who read a paper entitled "The Clinical Interpretation of Blood Findings." This was a very excellent and instructive address and was a treat to the local doctors.

This society has a membership of only six physicians, but they are deeply interested in society work and attend regularly each month; we have

missed only one monthly meeting since reorganization, fourteen months ago.

The Society subscribes to the "Clinical Reports of Massachusetts General Hospital" and several of these are read at each meeting, by the Secretary and each member present, as if he were a consultant in the case, is requested to make a diagnosis or describe the diagnostic methods mentioned before the Post-Mortem findings are revealed. These reports are prepared by Dr. Richard C. Cabot, of Boston, Massachusetts, and other societies would find them a useful form of study.

T. E. Wannamaker, Jr.
Secretary.

COLUMBIA.

The Columbia Medical Society met in regular session May 8, 1916, at the Y. M. C. A. Hall.

Meeting called to order by the president Dr. J. H. Taylor.

A paper by Dr. LeGrande Guerry entitled (a) Cases with Symptoms without Gall Stones (b) What Disposition Shall Be Made of the Gall Bladder? was very much enjoyed and discussed with considerable interest.

Under Clinical Reports Dr. H. W. Rice reported a case of multilocular cysts with demonstration of the preserved specimens.

Committee consisting of Dr. P. V. Mikell, Dr. William Weston, and Dr. J. H. McIntosh was appointed by the chair to send floral design and draft Resolutions of Sympathy in behalf of our deceased member Dr. Henry Horlbeck.

Edythe Welbourne,
Secretary.

UNION.

Whereas, Our Heavenly Father in His all wise Providence has seen fit to take from us our brother practitioner, Thomas Perrin Kennedy, May 21, 1916,

Be it resolved:

First, that we bow in submission to His will, yet realizing that our society has sustained an irreparable loss when this faithful worker, wise counsellor and sincere and affectionate friend was removed from our midst.

Second, that the Medical Profession has lost a member who represented in the highest degree, honor, integrity and medical ethics and that society in general has lost a useful and talented physician, who was untiring, sympathetic and above all a Christian gentleman.

Third, that these resolutions be published in the Union Times, The Progress, The Journal of the South Carolina Medical Association and that a page in the Minute Book of the Union County Medical Society be dedicated to his memory.

P. K. SWITZER,
S. G. SARRATT,
R. R. BERRY,
Committee.

BOOK REVIEW

THE CLINICS OF JOHN B. MURPHY, M. D., at Mercy Hospital, Chicago. Volume V., Number II., (April, 1916). Octavo of 176 pages, 32 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Published Bi-Monthly. Price per year: Paper, $8.00. Cloth, $12.00.

Following are some of the subjects treated in the above book: A Talk on the Surgery of Tendons and Tendon Sheaths. Retention Cyst of Lip—Ablation. Hemorrhagic Dural Cyst—Ablation. Phlegmon of Spinal Cord (Conus Medullaris). Traumatic Synovitis of Shoulder. Bowlegs (Genu Varum). Perforating Ulcer of Heel Excision of Ulcer.

INTERNATIONAL CLINICS.—A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Paediatrics, Obstetrics, Gynaecology, Orthopaedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics

of interest to Students and Practitioners. By leading members of the medical profession throughout the world. Edited by H. R. M. Landis, M. D., Philadelphia, U.S.A., with the collaboration of Chas H. Mayo, M. D., Rochester; Sir Wm. Osler, Bart., M. D., F. R. S., Oxford; Rupert Blue, M. D., D. P. H., Washington, D. C.; Frank Billings, M. D., Chicago; John G. Clark, M. D., Philadelphia; A. McPhedran, M. D., Toronto; James J. Walsh, M. D., New York; J. W. Ballantyne, M. D., Edinburgh; John Harold, M. D., London; Richard Kretz, M. D., Vienna. With correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels and Geneva. Volume I., Twenty-Sixth Series, 1916. Philadelphia and London, J. B. Lippincott Company.

The International Clinics in this issue presents a large number of interesting articles. The most valuable is the General Review of Medicine for the year 1915. This is a section of more than one hundred pages and necessarily covers a wide range of excerpts from the literature.

There is a classic article on The Wounded Mind, by Sir John P. H. Murphy, Assistant Physician, Government Hospital for the Insane, Washington, D. C.

Pellagra has been written up by Tucker of Virginia.

THE ENDEMIC DISEASES OF THE SOUTHERN STATES.—By William H. Deaderick, M. D., and Loyd Thompson, M. D., of Hot Springs, Arkansas. Octavo volume of 546 pages with 117 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, $5.00 net; Half Morocco, $6.50 net.

In review of this book perhaps the brief preface by the authors should be incorporated as follows: "The inception of this book was due to the fact that there is no work in existence dealing solely with the endemic diseases of the Southern States.

"It must not be inferred that the diseases considered are confined to the States of the South. On the other hand most of them are disseminated throughout the United States and some of them are found in most of the States of the Union. It is true, however, that these diseases are more prevalent in the Southern States.

It has been deemed advisable to treat of all the diseases that are especially prone to visit our confines at longer or at shorter intervals as the list of such diseases is long and such a work would necessarily be one on tropical diseases in general to which this work makes no pretension. We have concluded that it would be more practical to consider intensively only the endemic diseases of our Southland rather than to devote brief space to each of a large number of tropical diseases the most important of which will soon be of historic interest only.

Filariasis which occurs in an extremely limited area has been omitted.

"We are grateful to the publishers for courtesies throughout the publication of the book."

The Authors.

This is rather a pretentious volume of more than 500 pages. As to whether or not the profession is ready to look with favor upon books on Reginal Diseases remains to be seen, but will now be tried out, so far as the South is concerned. We wish to commend especially the exhaustive bibliography referred to by the authors. This will be an invaluable treasure house for Research workers. The volume has been creditably gotten up and certainly will be a convenient reference work for the busy Southern Practitioner.

THE PRACTICAL MEDICINE SERIES.—Comprising ten volumes on the year's progress in Medicine and Surgery. Under the general editorial charge of Charles L. Mix., A. M., M. D., Professor of Physical Diagnosis in the Northwestern University Medical School. Volume I. General Medicine edited by Frank Billings, M. S., M. D., head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago. Series 1916, Chicago. The Year Book Publishers, 327 S. LaSalle Street.

This is one of the excellent series of year books so well known to the profession.

NEW AND NON-OFFICIAL REMEDIES. 1916.—Containing descriptions of the articles which have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association, prior to January 1, 1916. Chicago, American Medical Association, Five Hundred and Thirty-Five North Dearborn St., 1916.

This work probably has not received the consideration it deserves at the hands of the rank and file of the profession. These

investigations have been going on for many years at the laboratory of the American Medical Association and each year there is placed at the disposal of the profession, a mine of invaluable knowledge of the Remedies that are continually coming out. Present volume contains approximately 450 pages.

THE MEDICAL CLINICS OF CHICAGO.—Volume I., Number V., (March, 1916). Octavo of 220 pages, 67 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Published Bi-Monthly. Price per year: Paper, $8.00; Cloth, $12.00.

One of the most valuable articles we have seen in some time on X-Ray Aspects of Intestinal Stasis by Case appears in this number.

Congenital Syphilis has been remarkably well presented by Abt at the Sarah Morris Memorial Hospital for Children. We notice an improvement in the selection of the subject matter and presentation of same from a scientific standpoint. Gradually they should fill an important place in American Medicine.

THE PRACTICAL MEDICINE SERIES.—Comprising ten volumes of the year's progress in Medicine and Surgery. Under the general editorial charge of Charles L. Mix, A. M., M. D., Professor of Physical Diagnosis in the Northwestern University Medical School. Volume II. General Surgery, edited by John B. Murphy, A. M., M. D., LL.D., F. R. C. S., England (Hon.), F. A. C. S. Professor of Surgery in the Northwestern University; Attending Surgeon and Chief of Staff of Mercy Hospital, and Columbus Hospital; Consulting Surgeon to Cook County Hospital and Alexian Brothers Hospital, Chicago. Series 1916.

Naturally War Surgery constitutes a considerable section of this volume but the entire field of Surgery has been covered in an exhaustive manner.

INTERNATIONAL CLINICS.—A Quarterly of illustarted Original Articles on Treatment, Medicine, Surgery, Neurology Paediatrics, Obstetrics, Gynaecology, Orthopaedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to Students and Practitioners. By leading members of the Medical profession throughout the world. Edited by H. R. M. Landis, M. D., Philadelphia, U. S. A., with the collaboration of Chas. H. Mayo, M. D., Rochester, Sir. Wm. Osler, Bart., M. D., F. R. S., Oxford; Frank Billings, M. D., Chicago; Rupert Blue, M. D., D. P. H., Washington, D. C.; John G. Clark, M. D., Philadelphia; A. McPherson, M. D., Toronto; James, J. Walsh, M. D., New York; J. W. Ballantyne, M. D., Edinburgh; John Harold, M. D., London; Richard Kretz, M. D., Vienna. With correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels and Geneva. Volume II. Twenty-Sixth Series, 1916. Philadelphia and London, J. P. Lippincott Company.

Few Compilations of current literature prove to be so generally useful as the International Clinics. The books are well bound on good paper and in every way attractive to the reader.

THE MEDICAL CLINICS OF CHICAGO.—May, 1916, Volume I., Number 6. Index Number. Published Bi-Monthly by W. B. Saunders Company, Philadelphia and London. Copywright, 1916, by W. B. Saunders Company. All rights reserved. Published bi-monthly (six numbers a year) by W. B. Saunders Company, West Washington Square, Philadelphia. Price per year, $8.00 (Foreign 35 shillings).

The Allen treatment of Diabetes by Hamburger at the Cook County Hospital is well worth careful perusal. Traumatis Neurosis has been cleverly presented by Hamill. One of the best articles in this volume is the clinic by Abt on Rachitis.

1915 COLLECTED PAPERS OF THE MAYO CLINIC, Rochester, Minn. Octavo of 983 pages, 286 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Cloth $6.00 net; Half Morocco $7.50 net.

This volume includes papers on the following general divisions:

1. Alimentary Canal.
2. Urogenital Organs.
3. Ductless Glands.
4. Head, Trunk and Extremities.
5. Technic.
6. General Subjects.

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papers, by thirty-five authors. This is probably the most comprehensive volume yet published, of the series.

THE PRACTICAL MEDICINE SERIES.—Comprising ten volumes on the year's progress in Medicine and Surgery. Under the general editorial charge of Charles L. Nix, A. M., M. D., Professor of Physical Diagnosis in the Northwestern University Medical School. Volume III. The Eye, Ear, Nose and Throat. Edited by Casey A. Wood, C. M., M. D., D. C. L. Albert H. Andrews, M. D., George E. Shambaugh, M. D. Series 1916.

This is one of the excellent year books.

One of the best features in this volume is the resume of the literature on military surgery of the eye.

DISEASES OF THE EYE.—By George E. deSchweinitz, M. D., LL. D., Professor of Opthalmology in the University of Pennsylvania. Eighth edition. Thoroughly revised and enlarged. Octavo of 754 pages, 386 text illustrations, and seven lithographic plates. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, $6.00 net, Half Morocco, $7.50 net.

This is one of the most important text books on this subject published in this country. The new edition has been thoroughly revised and will prove extremely useful as in the past to both the student and general practitioner and the specialist.

THE CLINICS OF JOHN B. MURPHY, M. D.—at Mercy Hospital, Chicago. Volume III., Number 3, (June, 1916). Octavo of 176 pages, 42 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Price per year, Paper, $8.00; Cloth, $12.00. W. B. Saunders Company, Philadelphia, London.

Among the interesting articles in this issue are the following:

Talk by Dr. R. C. Coffey on Certain Abdominal Operations.

Diverticulum of Esophagus—Conservative Treatment.

Ulcer of Duodenum and of Jejunum—Anterior Gastro Jejunostomy by oblong button method.

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Case I.—Neoplasms of Both Kidneys; Gastric Ulcer—Exploratory Celiotomy.
Case II.—Sarcoma of Right Kidney—Exploratory Celiotomy.

GYNECOLOGY.—By William P. Graves, M. D., F. A. C. S., Professor of Gynecology at Harvard Medical School. Octavo volume of 770 pages with 424 original illustrations, 66 of them in colors. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, $7.00 net. Half Morocco, $8.50 net.

This work is designed both as a text book and general reference book of Gynecology. Part One deals with the physiology of the Pelvic Organs and with the relationship of Gynecology to the general organism.

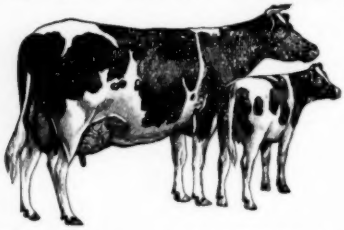
Part Two is designed primarily for the undergraduate student, who is taking his initial course in Gynecology.

Part Three is devoted exclusively to the technique of Gynecologic Surgery and is written for the assistance of the advanced student and Practitioner. The author as chief of the gynecologic clinic at Harvard has necessarily at his command a wealth of material. He has presented the results of his investigations and the work of others in a very clever manner. The illustrations are particularly good. The author gives credit to Brodel for inspiration along this line.

All in all the work is a scholarly presentation of the latest developments in the wide field of Gynecology.

U. S. PUBLIC HEALTH SERVICE RECOMMENDS HOLSTEIN COWS' MILK

In bulletin No. 56 published by the Hygienic Laboratory Dr. Joseph W. Sherreschewsky referes to the success with which undiluted cows' milk is fed to infants in Europe and says: 'Abroad, owing to different methods in feeding, and different grades of cattle, milk containing over 3.75 per cent. of butterfat is rarely found, and the average is not over 3 to 3.5 per cent. in the majority of cases. In this country it is a milk poor indeed that does not average 4 per cent. While agreeing with the experience in France of the digestibility of undiluted cows' milk as



an infant food, I am not prepared to advocate its use in this country unless the fat content is known to be **no higher than 3 per cent. This condtion can, however, be secured either by using milk from Holstein cattle,** which is normally no richer than this, or by removing appropriate amounts of 'top milk' from bottled milk after the cream has risen and then thoroughly mixing the remainder."

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ANNOUNCEMENT.

Dr. T. P. Whaley of Charleston wishes to announce to the Profession of South Carolina that he has returned to general practice.

The Journal of the South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.

Annual Subscription, $2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

ASSOCIATE EDITORS.

INTERNAL MEDICINE.
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R. M. POLLITZER, M. D., Children Hospital, Boston, Mass.

OBSTETRICS AND GYNECOLOGY.
ATMAR SMITH, M. D., Charleston, S. C.

GENITO-URINARY DISEASES AND SEROLOGY
M. H. WYMAN, M. D., Columbia, S. C.

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PUBLIC HEALTH.
J. LaBRUCE WARD, M. D., Columbia, S. C.

EYE, EAR, NOSE, AND THROAT.
E. W. CARPENTER, M. D., Greenville, S. C.

EDITORIAL

MINUTES NUMBER.

Owing to space required for publication of Minutes in this issue, several departments have been omitted, including Editorials. It is probable that with the return of the various members of our associate staff from their vacations many of the excellent editorials will be resumed in the fall and winter.

ORIGINAL ARTICLES

NON-INFLAMMATORY PNEUMO-HEMATOMA SIMULATING HERNIA, FOLLOWING TRANSVERSE SUPRAPUBIC ABDOMINAL SECTION.

By Lindsay Peters, M. D., Columbia, S. C.

THIS complication of surgical convalescence I have never seen before, nor do I recall any reference to such condition in the literature. It is of especial interest on account of the fact that it may give rise to mental anxiety and, because of its resemblance to hernia, it may be the occasion of needlessly re-opening the wound, as occurred in the following case, which I think merits a somewhat detailed account:

On June 26th, 1916, a woman of 29 years was operated upon for prolapse of the uterus, left hydrosalpinx and adhesions of the uterus, right tube and ovary and of the vermiform appendix. A curretage of the uterus and resection

of the relaxed vaginal outlet were done and the abdomen then opened by a transverse incision, 8 cm. long, near the upper limit of the pubic hairs. The skin incision was carried down to the fascia and a skin flap made by dissecting the subcutaneous fat from the underlying fascia to a level about 4cm. above the pubic bone, where the fascia was transversely divided and separated from the recti muscles and the linea alba both above and below the line of division of the fascia. After separating the outer edge of the right pyramidalis from the rectus muscle, the recti were pulled apart in the mid-line, exposing the subperitoneal fat and the peritoneum, which were incised vertically.

The left tube, forming a hydrosalpinx, and the left ovary, enlarged by Graaffian follicle cysts, were removed. Adhesions of the fundus of the uterus were broken up and old, dense adhesions of the right tube and ovary also separated. The vermiform appendix, being involved in the adhesions of the right pelvic appendages, was removed. The round ligaments were then transplanted by the method known as Gilliams' (described by Noble, of Atlanta, before the first publication of Gilliam), modified as described in my article in the Journal of the South Carolina Medical Association, July, 1907.

The incision was closed in the following manner: The peritoneal opening was united by a continuous 10-day, No. 0 chromic catgut suture; the recti muscles were not sutured; the fascia was sutured with a continuous stitch of 20-day, No. 2 chromic catgut which overlapped the fascial edges in uniting them. The skin was approximated by a continuous subcuticular suture of No. 1 chromic catgut.

In making the incision two good-sized veins were divided just over the fascia; these were clamped and, as they did not bleed on removing the artery forceps during closure of the incision, they were not tied.

In applying the dressings a pad was placed over the skin flap and tightly strapped down with adhesive plaster.

Convalescence was uncomplicated during the patient's stay in the hospital and, owing to her inability to pay her expenses at the hospital, she was allowed to go home in an ambulance on the fifth day. From that time she sat up in bed frequently and on the 8th day got out of bed in a chair.

The wound was first dressed on the 4th day and found to be clean and free from infection or signs of hematoma.

On visiting the patient at her home late in the afternoon of the 11th day I found her sitting up in bed. She stated that two days previously while seated in a rocking chair, she attempted to get up quickly, but had a sharp pain in the region of the wound, which caused her to drop back into the chair. She thought she had "torn something loose" and was afraid to get out of bed again. Examination showed the skin healed, its edges being accurately coapted and no sign of infection nor separation at any point, but just above the incision there was a transversely oblong swelling, about 9 x 4 cm., with a soft cushiony feel, very slightly painful on pressure, giving high-pitched tympany on percussion and on drawing the fingers across it a sound resembling that given by a membrane distended with air. The sensation imparted to the fingers on palpation was exactly that one gets in hernia and I felt sure that intestine lay directly beneath the skin. An unavailing effort to reduce the supposed hernia was made with the hips elevated. The bowels had acted freely every day. Hematoma was thought of, but this, in the absence of signs of infec-

tion, did not account for a tumor containing gas, and moreover there was not the slightest ecchymosis of the skin anywhere in the region of the wound.

The perineal wound had healed per primam.

Having concluded that there had been a separation of the deeper layers of the wound and a protrusion of intestine without strangulation, arrangements were made to take the patient to the hospital that same evening. Early the following morning, on opening one half the length of the skin incision, about 15 cc. of dark, fluid blood escaped, leaving a cavity formed by a sunken space just above the pubis and undermining the skin for a short distance upward and for a greater distance to each side. There was no intestine and no opening leading to the abdominal cavity, the deep layers of the wound being firmly united, without evidence of infection anywhere. The dead space was obliterated by suturing the under side of the skin flap to the floor of the cavity and the skin edges united by a continuous subcuticular catgut suture.

Gas bacillus infection being excluded by the entire absence of signs of inflammation, how the air got under the skin is an interesting question. I can conceive of only three possible means: Either that it escaped from the abdomen soon after the operation, entered through the skin incision before firm union occurred or a large "dead space" was left between the skin and underlying fascia when the wound was closed.

Of course, with the patient in Trendellenburg's position air enters the peritoneal cavity and it is readily conceivable that under certain circumstances a small quantity of air might become imprisoned therein and before being absorbed, escape through a space between peritoneal stitches to the upper layers of the wound, but even so, would it remain for eleven days without being absorbed? Traction of a scaphoid abdomen, especially with the added weight of a suspended uterus, might possibly cause negative pressure between the skin flap and the fascia, so that an imperfect approximation of skin might allow air to enter from the exterior. I think, however, that the most probable explanation of the condition is that air was imprisoned beneath the skin flap when the wound was closed, but alone did not produce swelling sufficient to be noticeable at that time nor at the dressing on the 4th day, but with hemorrhage added, caused by a sudden movement of the patient when she was sitting out of bed, the tumor was produced which so exactly imitated post-operative hernia

Granting that this explanation of the condition is correct, it is obvious that this annoying, though not very serious complication, can be avoided by careful attention to hemostasis and complete obliteration of dead spaces in the closure of wounds. This applies especially to the type of incision used in this case, on account of the good sized skin flap and the hollow space which exists in some cases immediately above the pubis.

In the literature to which I have convenient access the only references to non-inflammatory gas tumors which I find mention only gas cysts of the intestine, of the trachea and bronchi, of the liver (associated with hydated cysts with rigid walls) and of the cranium, resulting from retention of air in gunshot wound of the skull.

THE MONTGOMERY OPERATION IN UTERINE RETRODISPLACEMENTS.

By S. O. Black, A. B. and M. D.
House Officer, Jefferson Med. Col. Hos.,
and
H. S. Black, A. B., Senior Student, Jefferson Medical College, in the Service of Dr. H. R. Black, Spartanburg, S. C.

FROM answers to inquiries made during the past few days we believe that we were the first in South Carolina to perform the Montgomery operation for shortening the Round Ligaments.

It is not the purpose of this paper to discuss the pros and cons, to any considerable detail, of the various operations devised for uterine retrodisplacements. Orthopedic procedures for the correction of malpositions of the uterus are rapidly disappearing from use. The mere fact that a pessary is a foreign body, that it is difficult to keep clean, that from the least alteration in its proper position its function is impaired, and that it tends to erode and abrade tissue, warrants its place, more and more, upon the shelf containing other surgical relics. It has, however, been as a step along the path of Gynecological progress.

In the very aged, who have at the most but a few years to live, due to the degeneration of their heart muscle or weakening of their renal architecture, with atrophy or wasting of their bronchi and bronchioles, it is perhaps justifiable to correct the anatomical positions by the use of a pessary for a few days at a time.

All the time that the older of the writers was the house officer in charge of the Jefferson Hospital ward devoted to the care of Gynecological patients not one such appliance was used. Nor does he remember having seen his father use one in any of the many times he has gone into the operating room with him during the past nine years.

Pessaries are almost gynecological memoirs, practically gone forever. In their place have come new and anatomical operations. There is, however, no one of these that suits all cases. For a long time the old Alexander or Inguinal operation was the idol of the day. This was a poor operation because it used the tendinous or ligamentous portion of the round ligament as the point to anchor. It stretched, wasted, atrophied, and ere long, in a great many cases, gave way. The fundus fell back into the recess of the pelvis to lie against the rectum or upon the fascial covering of the pelvic diaphragm.

In time came the utilization of the proximal or muscular portion of the round ligament. This is exemplified in the Baldy-Webster operation where the ligaments are fastened to the posterior surface of the uterine body with or without uniting them one to the other. Especially is it useful when there is a prolapse of the ovaries. It can be done then in such a way as to act as a support to these little viscera as well. It is perhaps bad surgery to attach the round ligament to the utero-ovarian ligament on the corresponding side because this latter is largely peritoneal in structure and is too prone to give way.

The Gilliam operation and its many modifications have in more recent years attracted considerable attention. It is defective in that it divides the pelvis into compartments, and into one of these a loop of intestine might readily find its way and there become strangulated. Two such cases were operated upon in the Jefferson Hospital before Dr. Montgomery devised his operation.

The Bovee method, besides taking longer, is more difficult to perform and is dangerous because of the proximity of the ureters.

Dr. E. E. Montgomery, in the late fall of 1914, had performed over seven hundred (700) operations after his own method and had yet to have a complication of a serious nature. It is comparatively easy, is anatomical in its usefulness and purpose, and requires but a very short time for completion.

He practically always precedes it by a dilation and curettage of the uterus, does whatever plastic work is required on the cervix, vaginal walls and perineum, then opens the abdomen, cleanses the pelvis if necessary, shortens the round ligaments and removes the vermiform appendix.

The ligaments are grasped about one and one-half (1 1-2) inches from the side of the uterus and are carried outwards between the leaflets of the broad ligament on the corresponding side, and then are pushed forwards and slightly inwards through the abdominal wall to appear upon the surface of the aponeurosis. They are then pulled through the wall to the extent required to place the fundus in the proper position and are fastened to the aponeurosis in such a way as not to choke off the blood supply of the ligaments. The older of the writers has designed an instrument to facilitate the passage of the ligaments through the parietes.

If the uterus be rather large and heavy from a low grade sub-involution, its new position can readily be temporarily reinforced by including a small portion of the fundus in the bite of the needle when the lower angle of the peritoneal wound is being closed. This suffices until involution has become complete and future pregnances are in no ways interfered with. One of our recent cases complained of a little pain at the site where the round ligament was stitched to the aponeurosis. This rapidly disappeared after three days.

The entire operation, e. g., the D. & C., the plastic and the abdominal section can frequently be performed in from twenty minutes to three-quarters of an hour.

The Mayos have modified this operation by suturing the ligaments together across that portion of the aponeurosis intervening between the two points of exit of the ligaments. Its objection is that the resulting tension is frequently so great that it predisposes to laceration of the ligament with a resulting gangrene of the part.

The fact that the Montgomery operation is so comparatively easy, that it deviates so little from the relations of the pelvis as decreed and ordained by nature, and that it can be done in such a short time, are all reasons why it is so rapidly forging its way to the front. It comes nearer to fulfilling the desired functions than any of the so-called Internal Alexander operations yet devised.

THE USE AND ABUSE OF THE UTERINE CURETTE.

By Geo. Bunch, M. D., Columbia, S. C.

IT is not the purpose of this paper to discuss the technique of uterine curettage, although a few words on how to curet would not be amiss. On the contrary we shall confine ourselves to a discussion of the indications and contra-indications for curettage. The subject is of paramount interest to the medical profession for a Dilation and Curettage is perhaps the

Read before the S. C. Medical Association, Charleston, April 20, 1916.

most universally performed operation in surgery. Although usually considered a minor operation, practically free from danger, when ill advised or carelessly done, it is followed by serious complications that may result in the death of the patient. We protest against the indiscriminate use of the curet and urge due caution and deliberation before resorting to it. We believe that the patient is entitled to the same careful examination and consideration for curettage as for abdominal section. The indications for operation should be equally clear in both cases. Because a curettage is easily done is no reason why it should be done unless there is reasonable assurance of some good to be accomplished by it. We are too prone to do the easiest thing without consideration of the ultimate result to the patient. We believe that the curet is the most abused, the most over-used instrument in surgery. The zeal with which the profession resorts to it is a menace to womankind. In some conditions it is life saving, in others its use is a crime.

The uterine curet may be a therapeutic or a diagnostic agent. As a therapeutic procedure curettage is commonly used in the treatment of dysmenorrhoea, leucorrhoea, sterility, in the production of abortion, in incomplete abortion, and in pathological uterine bleeding from whatever cause. During normal menstruation a woman's nervous system is in a state of physiological depression and nervous phenomena are natural. Painful menstruation is most frequently caused by malposition of the uterus, by contracted cervix, or by some inflammatory condition. In none of these does the curet relieve the symptoms or cure the patient, for it cannot remove the cause. The relief from the dysmenorrhoea after a Dilatation and Curettage is due to the dilatation of the uterus and not to the curettage, for the dilatation provides drainage and by emptying the uterus tends to stop the contractions. The proper treatment of painful menstruation due to malposition is the replacement of the uterus in its normal position and keeping it there by sutures. Dilatation of the cervix may assist in the cure. Painful menstruation due to a contracted os is relieved by thorough dilatation with a partial amputation of the cervix, when it is greatly elongated. Painful menstruation due to inflammation is relieved by the cure of the inflammation. If this be salpingitis, the infected tube should be resected or removed. If it be chronic appendicitis, appendectomy affords prompt and permanent relief. The mucous lining of the womb is not sensitive and has such a small relationship to painful menstruation that its imperfect removal by a curet affords no relief. In amenorrhoea the uterus does not functionate properly because of some impairment in the general health of the patient. Nature is trying by preventing the loss of blood to conserve strength. The amenorrhoea is but a local manifestation of a general condition. The examination, diagnosis, and treatment should be systemic. Local measures should not be resorted to unless especially indicated.

Leucorrhoea is a condition that at one time or another after puberty affects the vast majority of women. Treatment for the whites is the most common prescription written for women. It is a more or less chronic condition of vaginal cervical or uterine origin, but most commonly due to infection of the cervical glands. After hot antiseptic douches or topical applications on vaginal tampons have been applied and various uterine tonics given without appreciable results the

doctor advises a Dilatation and Curettage, not because he has ever seen a case cured by this procedure, but because he considers the operation harmless and the patient demands relief. After operation there is no relief, for the cervical glands cannot be reached by the curet and the discharge continues as before. Cases of leucorrhoea of vaginal origin are neither cured by curettage nor hysterectomy. The use of the curet in leucorrhoea cannot do any good and should be abandoned, for it is not without danger.

In the treatment of sterility in the female, first be sure that it is the wife and not the husband who is sterile. Probably half the childless marriages are due to sterility in the male and when the female is sterile it is most often from infection given her by him. There is not one case in a hundred of fruitless wedlock due primarily to anatomical or physiological defect in the woman. After marriage if conception does not take place and the os is tightly contracted, a cervical dilatation opens the way for the entrance of the spermatoza into the uterus. If the tubes are patent and functionating, the ovum is transmitted to the uterus and becomes fertilized. But as is most often true in sterility in the female the tubes are hermetically sealed by gonorrhoeal infection and cannot transmit the ovum. The male and the female elements do not reach each other and conception cannot take place. It must be apparent to all how useless is the curette in these cases, and yet many of them have been curetted repeatedly.

In pulmonary tuberculosis, nephritis, acute pyelitis, advanced heart disease, persistent hyperemesis, or any condition where the life of the mother is unduly jeopardized by the continuation of pregnacy, the production of an early abortion is strongly indicated, and is, I believe, quickest and best accomplished by a dilatation and curettage of the uterus. There is no other method as certain or as safe. After the fourth month there are other and better ways of terminating pregnancy. Packing the cervix and vagina with sterile gauze will cause pains in a few hours and, when the pack is removed, the products of conception follow it. In incomplete abortion before the fourth month a curet is helpful in cleaning out the uterus and stopping the bleeding. After the fourth month this is best accomplished by a finger in the uterus, the other hand being on the abdomen pressing the uterus down against the finger. Small bits of retained placenta are easily recognized by the finger. In this way, without the danger of perforating the uterus. Before doing anything at all in these cases one must first satisfy himself of the impossibility or the inadvisability of pregnancy continuing to a normal termination. Many women in early pregnancy if kept quiet in bed will stop bleeding and give birth to healthy infants. Although usually done with the very best of good intentions, the early resort to the curette in these cases is to be severely condemned. After delivery the curette should never be used. Neither persistent bleeding nor fever is an indication for it. The danger of perforating the uterus with the curette is considerable, even in the most careful hands. We have had the accident happen several times and have seen cases where the rent in the uterine wall was considerable. In one case of curettage for incomplete abortion the patient was brought into the Hospital with a piece of attached omentum in the vagina that had protruded from the vulva. At first the

doctor thought it was a part of the membrane. When the accident has happened, laparotomy with repair of the perforation should be done at once. In none of our cases was there any ill effect from the accident, but the dangers from hemorrhage and from peritonitis must be obvious. In puerperal sepsis curettage spreads the infection by opening the uterine sinuses to it. In sepsis if retained placenta is suspected, it had best be removed by the intelligent finger, which will not damage the tissues.

The medical profession seems unable to learn and properly appreciate the well known physiological fact that the normal menopause is never associated with an increased flow. As the name itself indicates it is at this peculiar time in a woman's life that the flow gradually ceases—first by coming less often, second by being shorter in duration, and third by a decrease in volume. In the forties woman's productivity ceases with the change of life. It is her misfortune that because of local injuries from this productivity that she should be subjected to an increased liability to malignant degeneration. I believe that an increase in frequency, continuation, or in volume of the flow without some very apparent cause, such as cervical polyp or submucous fibroid, should be regarded as probable beginning malignancy and treated accordingly, not by curettage, but by prompt hysterectomy with deep cauterization of the cervical stump if it be not removed. At this age the uterus can no longer functionate and becomes an atrophic, worthless organ. The slogan of safety first, sentiment afterwards, should be preached to these women by the medical profession from the house tops. The common practice of curetting these cases, whether for therapeutic or diagnostic purposes, is positively criminal. The curet cannot remove all the epithelium from the uterine cavity and the uterine glands are left practically intact. The inevitable and universal result of a curettage must be the loss of invaluable time due to the feeling false security by both patient and doctor. Cancer cells are distributed by it and stimulated to increased metastases and proliferation. It is the practice in many of the largest and best hospitals to send the scrapings to a pathologist who is in readiness to make frozen sections and give an immediate report to the operator. If malignant, a complete hysterectomy is done. But cancer begins locally in the epithelium and what assurance is there that cancer will not be overlooked, for every portion of the curettings cannot be examined? No matter how expert the pathologist, the practice is wrong in principle and should be abandoned. A hysterectomy when done early removes the pathology and cures the patient. Even though the uterus be not malignant, after removal, it is no longer a menace. There is another side to the question that should not be forgotten. Sarcomatous change in the uterus is not uncommon. It is a connective tissue degeneration and begins in the uterine muscle, which is not removed by the curettage and therefore not examined by the pathologist. Because the uterine epithelium does not show cancerous degeneration is no indication that the womb is not sarcomatous. The only sensible, safe procedure in suspicious uterine bleeding about the age of forty is hysterectomy. Many of these women have been curetted repeatedly, and I doubt if any case of uterine cancer has ever been cured by hysterectomy after having been curetted at a previous operation. Theoretically carbolic acid ap-

plied to the interior of the uterus after curettage seals the blood and lymph channels against the entrance of invading organisms or cancer cells. Practically, it is very doubtful if such applications are of any benefit either in sepsis or malignancy.

There are conditions that are very common in women that positively contra-indicate the use of the curette. One must always be sure that an acute gonorrhoea is not present. The experience and the writings of authorities are unanimous on this. The danger from peritonitis and a rapidly progressive sepsis are real and many is the precious life that has been sacrificed in the disregard of this well known fact.

Ectopic pregnancy is a condition very much more common than the text books say, and every gynecologist of experience knows that tubal abortion is often found on abdominal section when least expected. The symptoms of tubal abortion are sometimes so confusing that it is practically impossible to distinguish it from incomplete uterine abortion. There may be intermittent pains, tenderness, muscle rigidity, and uterine flow with a history of the monthly period being delayed for two or three weeks. The boggy tubal mass on one side of the uterus may or may not be distinguishable without an anaesthetic, and when found, is in no way distinctive from a pus tube or an infected ovary. I remember to have had the humiliation of having curetted a rather stout married woman for uterine hemorrhage presumably from an incomplete abortion. But few products of conception were found and the bleeding continued until a more experienced surgeon made the proper diagnosis. The abdomen was filled with organizing blood clot and an incomplete tubal abortion was removed with prompt relief of symptoms.

Acute pelvic inflammatory disease from any cause is a third very common pathological condition that contra-indicates curettage. A very sad experience two years ago has taught me this lesson. A middle aged married woman with a tuberculous husband had a painful tender mass in the right pelvis with leucocytosis and fever. She refused laparotomy, as I advised, and I withdrew from the case. She had missed three periods and had an enlarged uterus. In a week she again sent for me and was having intermittent pains with profuse vaginal bleeding. I inserted a strip of sterile gauze in to the cervix, tamponed the vagina, and sent her to the Columbia Hospital. Next morning her fever was high, the bleeding continued through the tampon, and I under ether very carefully with a curette removed the products of the conception. The manipulation incident to the operation ruptured a pelvic abscess and the patient died of general peritonitis in forty-eight hours. The woman was septic and hydremic. The hemorrhage had been continuous for a week. Would an abdominal hysterectomy have saved her?

In conclusion, we believe the medical profession has blindly followed tradition and custom rather than common sense and experience in the use of the curette. We know that it is generally used in cases in which it does no good and that it is often used when it does harm. Its early use in the bleeding of threatened abortion annually reduces the birth rate by thousands. Its common use in early malignancy for any purpose practically condemns a woman to an early death when a hysterectomy might save her. The indications for curettage should be positive. When in doubt do not curette.

STATE BOARD OF MEDICAL EXAMINERS

STATE BOARD OF MEDICAL EXAMINERS OF SOUTH CAROLINA. JUNE, 1916.

Dr. E. W. Pressly, Examiner.

Nurses: Obstetrics.

1. Define Obstetric Nursing.
2. State in the order of their occurrence the phenomena of a normal labor and give the proper management of this condition when the nurse is in sole charge.
3. Define the term ("pains") as used in obstetrics, and differentiate between true and false pains.
4. Name the two principal causes that bring about the retention of urine after confinement—state how such retention may be recognized, and give technique for relief of same.
5. Give formula suitable for rectal feeding in puerperal patient who cannot be fed in the ordinary way, and give technique of rectal feeding.
6. Describe Crede's method of placental delivery.
7. Describe method of resuscitating an infant born, asphyxiated.
8. What is ophthalmia neonatorum, what are its signs, what is its cause, what is its prognosis and what is its treatment?
9. What are the two usual causes of premature respiration, and what grave danger does it occasion?
10. What is erythema neonatorum, what are its ordinary causative agents, and what is its management?
11. What are after pains, what is their ordinary origin, and how should they be treated?

N. B.—Either of questions 10 or 11 may be left unanswered without detriment to the candidate's standing.

Nurses. Dietetics. Dr. John Lyon, Examiner, June, 1916.

1. Why is a thorough cooking of starchy foods especially important?
2. What effect has prolonged cooking on albumen?
3. What causes milk to become sour? How may this be prevented?
4. Why is cows milk more likely to disagree with an infant in summer than winter?
5. What useful function is performed by the indigestible parts of fruits and vegetables?
6. By what signs do you know (a) fresh milk? (b) good beef? (c) fresh fish? (d) fresh eggs?
7. What is meant by (a) certified milk? (b) Pasteurized milk? (c) Sterilized milk?
8. Which are more easily digested broiled or fried meats? Why?
9. Outline the care of an icebox.
10. Tell how to prepare and serve the following: (a) beef tea, (b) barley water, (c) oatmeal, (d) broiled steak.

Nurses, Practice of Medicine. Dr. J. J. Watson, Examiner, June, 1916.

1. What temperature would you consider (a) moderate fever, (b) high fever?
2. In what diseases are you most likely to have chills?

3. What do you consider the best method to produce emesis?
4. Under what conditions would you consider the production of emesis necessary?
5. You are called upon to administer to a woman who has fainted in a crowd, what would you do?

Nurses. Materia Medica and Therapeutics. Dr. H. L. Shaw, Exam. June, 1916.

1. How would you manage heat stroke prior to the arrival of a physician?
2. Patient's bowels must be quickly evacuated, what would you do?
3. What is the Murphy drip. Describe how it is used, and what are its advantages?
4. What is the therapeutic effect of hypodermic administration of 1-8 gr. morphine sulphate?
5. Give in detail the care that should be used in nursing a case of typhoid fever.
6. If nursing a case of lobar pneumonia on the 9th day the temperature drops from 103 or 4 F. to normal or subnormal, what would you suspect and what would you do?
7. Describe fully how you would apply a hot pack.
8. How would you make a mustard plaster, how long should it remain, care of the skin after removal?
9. Give name and dose of a nerve sedative, and when indicated?
10. When is the stomach pump indicated and how used.

Nurses. Anatomy. Dr. J. T. Taylor, Examiner, June, 1916.

1. Name the bones of the pelvis.
2. Name the two largest arteries of the forearm.
3. Name the large arteries that lead from the heart and state from which division of the heart each leads.
4. Name the large veins that enter the heart and state which division of the heart each enters.
5. What is peculiar about the blood in one of the arteries in Ques. 3, and in one of the veins in Ques. 4?
6. Name in order the cervical vertebrae.
7. Locate the liver. The spleen.
8. Name in order the divisions of the large intestine.
9. Locate the foramen magnum and state what passes through it.
10. Name the bones that articulate at the knee joint.

Nurses. Surgery. Dr. Harry H. Wyman, Examiner, June, 1916.

1. Mention the fixtures and accessories that should be found in an operating room.
2. What is meant by Fowler's position, Sim's position?
3. Give in detail the preparation of the parts for an appendectomy. What instruments and material would you have ready for an appendectomy?
4. What symptoms would cause you to suspect internal hemorrhage—what would you do in such a case?
5. What is meant by laparotomy, herniotomy, hysterotomy, hypodermoclysis, enteroclysis, bistoury, curette, trocar, Murphy's button?
6. What is meant by lumbar puncture—and for what purposes is it done, what instruments are used?
7. Give duties respectively of a sterile and unsterile nurse in operating room.
8. In bleeding from the palm of hand which could not be controlled by packing, where would you apply a tourniquet?

9. Tell in detail how you would sterilize your hands.
10. Give your ideas about feeding, posture and use of enemas, after an operation for gunshot perforation of intestine.

Nurses. Physiology. Dr. A. M. Brailsford, Examiner. June, 1916.

1. By what means is the blood relieved of effete matter and provided with new material?
2. What secretions act upon food during the process of digestion?
3. Normally what is the ratio of respirations to heart pulsations?
4. Give the normal quantity of urine and the normal specific gravity and reaction.
5. In what way is the sensation of pain registered?

Hygiene and Sanitation.

1. What hygienic precautions would you adopt to prevent the spread of an infectious disease among well members of a stricken household?
2. Discuss the respective merits of cotton, wool, and silk when used as underwear.
3. Mention four preventable diseases and tell how they may be prevented.
4. How would you care for the mother and child during the puerperium?
5. Disinfect a room in which there had been a case of scarlet fever.

Nurses. Practical Nursing. Dr. A. Earle Boozer, Exam., June, 1916.

1. What do you understand by "Ethics of Nursing?"
2. What points would you notice about the mental condition, facial expression, eyes and skin of a new patient?
3. What simple means would you use to relieve insomnia before resorting to drugs
4. Why is the hypodermic method of giving medicine used? How would you give it. What care would you give a hypodermic syringe before and after using?
5. Give the preparation for and administration of a hypodermoclysis.

Obstetrics. Dr. L .W. Pressly, Exam., June, 1916.

1. Describe the composition of the amniotic fluid physically and chemically, name the sources of its origin and the purpose which it serves in the foetal economy.
2. Describe the changes gross and microscopical which occur in the blood of the pregnant woman.
3. Differentiate between abortion and premature labor, and give the conditions, if any such there be, justifying the induction of each, and give method of inducing abortion.
4. Diagnose from vaginal and abdominal findings a R. O. P., and give mechanism and management of such case.
5. Differentiate between the hemorrhage of placenta praevia and that of a prematurely detached placenta and give management of each.
6. Differentiate puerperal sepsis from typhoid fever and malarial fever, and give management of an attack of puerperal sepsis. To whom is due the credit of demonstrating the real nature of puerperal sepsis, and when was it done?
7. Define phlegmasia alba dolens, name its varieties and give its etiology, symptoms, prognosis and treatment.
8. Give differentiation of embryotomy and craniotomy, give indications for the performance of each, and give technique of craniotomy.
9. State what conditions justify the

introduction of the hand into the parturient uterus, and give technique of doing it.

10. Name the accidents which may occur to the mother and those that may occur to the child during labor, and state how these accidents may be avoided.

Bacteriology and Pathology. Junior Curr. Dr. John Lyon, Exam. June, 1916.

1. Given a specimen of cerebro-spinal fluid for examination, mention the microscopical points of difference you would expect to find in tubercular meningitis and epidemic cerebro-spinal meningitis.
2. Describe the process of detecting the stomach histolytica in the stools and differentiate it from the entamoeba coli.
3. Describe the technique of identifying the spirocheta palida.
4. Describe a peptic ulcer and give its locations, consequences and terminations.
5. Describe infarct formation. What variety is found in the (a) lungs? (b) kidneys?

Pediatrics. Senior Curriculum.

1. What is the period of incubation in (a) measles? (b) Scarlet fever? Describe the rash in each disease, giving the time and manner of its appearance, its duration and character of desquamation.
2. Describe the eruption in varicella.
3. Give the etiology, symptoms and treatment of cholera infantum.
4. Describe a case of rickets.
5. Differentiate infantile scurvy and rheumatism and give the treatment of each disease.

Gynecology.

1. What is the most common cause of (a) pelvic cellulitis (parametritis) (b) pyosalpinx?
2. Describe the early signs of cancer of the uterus. How would you determine a case to be in an operable or inoperable stage?
3. What anatomic changes must take place in order that a prolapse of the uterus may occur? What is meant by ventro-fixation? Give its indications and limitations.
4. A mother brings her daughter, age 15 or 16, to you, stating that she has never menstruated. What would you do for her?
5. Describe the technique of an operation for complete tear of the perineum involving the sphincter ani. Outline the management of the case before and after the operation.

Practice of Medicine. Dr. J. J. Watson, Examiner. June, 1916.

1. Discuss the etiology of hemiplegia, occurring in a person 25 years old.
2. What symptoms and physical signs would you require to make a diagnosis of Mediastinal tumor?
3. Mention the symptoms and physical signs of cardiac decompensation.
4. Describe a case of acute gastro duodenitis, stating the diseases with which it might be confounded and give their diagnostic differences.
5. Describe a case of Hodgkin's disease.
6. What are the common causes of hoarseness?
7. Describe a case of spasmodic asthma.
8. How would you elicit Babinskis reflex (dorsel flexion of great toe)? What is its clinical significance?
9. Describe a case of migraine (Hemicrania).
10. What symptoms would cause you

to suspect uncinariasis? What blood picture would you expect to find?

Materia Medica. Junior Curriculum. Dr. H. L. Shaw, Examiner, June, 1916.

What are the (1) Properties, (2) Action and uses, (3) Dosage of the following drugs: Sulphate Codeine, Acetphenetidin (Phenacetin), Dilute Hydrochloric Acid, Ammonium Chloride, Apomorphin Hydrochloride, Chloral Hydrate, Fl. Ext. Ergot, Mercuric Salicylate, Potassium Bromide. Santonin.

Therapeutics. Senior Curriculum.

What therapeutic agents would you employ in treating the following diseases. When drugs are used give dose, frequency of administration and therapeutic effect:

(1) Diphtheria, (2) Mumps, (3) Puerperal Eclampsia, (4) Chronic Interstitial Nephritis, (5) Diabetes Mellitus, (6) La Grippe, (7) Acute Ileocolitis, (8) Erysipelas, (9) Acute Rheumatic fever, (10) Write a prescription for Cystitis, containing in proper dose,

Tr. Belladonna,
Citrate Lithia,
Tr. Hyoscyamus,
With water as vehicle.

Anatomy. Junior Curriculum. Dr. J. T. Taylor, Exam., June, 1916.

1. Describe Hunter's (adductor) canal and state what is found therein.
2. Give the nerve supply of the fingers.
3. Describe the formation of the optic tract.
4. Name the muscles used in closing the lower jaw.
5. Describe the first cervical vertebra.

Surgical Anatomy. Senior Curriculum.

1. What structures are severed by a transverse incision through the lower third of the arm?
2. What structures are severed by a transverse incision through the middle of the leg?
3. How is collateral circulation established when the femoral artery is ligated just below its profunda branch?
4. How is it possible for gall stones to give symptoms of pancreatic disease?
5. In making an incision for empyema, why should it be made along the upper edge of the rib and not at the lower?
6. Describe the displacement of the foot in a Pott's fracture and give your reasons for such displacement.
7. Describe the point of puncture for tonsilar abscess. Give the direction and depth of the puncture and your reasons for same.
8. When an elbow joint is resected and there is a resulting paralysis of the flexor carpiulnaris and of the inner half of flexor profundus digitorum, what and where is the cause of the paralysis?
9. What nerves are to be avoided in making lumbar incisions?
10. Show how hema temesis and hemorrhoids may be symptoms of cirrhosis of the liver.

Surgery. Dr. Harry H. Wyman, Examiner. June, 1916.

1. Discuss the leucocyte count and its value in surgical diagnosis. Mention six diseases in which leucocytosis occurs and those in which it does not.
2. Give symptoms, diagnosis and treatment of syphilitic gumma of brain.

3. Give causes, diagnosis and treatment of infectious arthritis.
4. Operate for epithelioma of lower lip so that chance of recurrence is reduced to a minimum.
5. Give causes of ununited fractures and treatment of ununited fracture of femur.
6. Operate for cholecystitis including description of incision and method of placing and fixing drainage tube.
7. Perform a posterior gastro-enterostomy.
8. What instruments, sponges, suture material, table drapings, basins, solutions, etc., would you have ready for operation in question six.
9. Disarticulate little toe with its entire phalanx.
10. Give indications for removal of tonsils and describe a tonsillectomy.

Minor Surgery.

1. Discuss etiology of infectious arthritis and treatment.
2. Etiology, symptoms, differential diagnosis and treatment of iritis.
3. Etiology, diagnosis and treatment of chronic suppurating glands of the neck.
4. Pathology and treatment of true bunion of great toe.
5. Differentiate between gumma and epithelioma of lip. Treatment of each.
6. Symptoms of cyst of Bartholin gland and treatment.
7. Reduce a dislocation of thumb at meta-carpo-phalangeal joint.
8. Symptoms, differential diagnosis and treatment of erysipelas of lower leg.
9. Classification of burns and treatment.
10. In what serious systemic disease is carbuncle liable to be present. Treat a carbuncle.

Physiology. Dr. A. M. Brailsford, Examiner, June, 1916.

1. Discuss briefly the mechanism of respiration.
2. (a) What is meant by the respiratory rythm? (b) The respiratory sounds?
3. What are the functions of the Pituitary body?
4. Discuss briefly the physiology of the cerebellum.
5. What are the movements of the intestines—their causes and uses.

Hygiene, Sanitation, State Medicine.

1. What is meant by vital statistics?
2. What circumstances or conditions influence death rates?
3. Mention six occupations that are detrimental to the health of those engaged in them, and the reasons therefor.
4. Discuss briefly poisoning by meat and fish.
5. State briefly the duties of the health officer of a city.
6. What measures would you suggest to improve sanitary conditions in rural districts?
7. What is meant by Natural and Acquired Immunity from disease? Give an example of each.
9. Define humidity of the atmosphere. What diseases does it render more sensitive and why?
9. What hygienic precautions should be employed about Zymotic Diseases?
10. Discuss the methods of purifying drinking water.

Chemistry. Junior Curriculum. Dr. A. Earle Boozer, Examiner. June, 1916.

1. Define physiologic chemistry.
2. What are organic and inorganic substances? How are these supplied to the body?
3. Describe the chemical change in starches during digestion.
4. What is the normal chemical re-

action of (1) Saliva. (2) Gastric juice. (3) Blood. (4) Tears. (5) Urine.

5. What electric currents are commonly used in medicine? What precautions are necessary in their use?

Urinalysis, Microscopy, Toxicology, & Medical Jurisprudence. Senior Curriculum.

1. What variations in the color of urine may take place in health, and from what cause?
2. What is the normal amount of urine voided in 24 hrs.? Which is the more serious, retention or suppression of urine and why?
3. How does diet affect the elimination of urea?
4. What are the different steps in the examination of urine both chemically and microscopically.
5. Describe a case of chronic arsenical poisoning.
6. What are the symptoms of chronic cocainism?
7. Give the immediate and remote effects of concentrated lye poisoning. To what class of poisons does it belong?
8. Differentiate a still born infant, full term, from dying a few hours after birth.
9. What is required in order to make an ante morten statement valid testimony?
10. Detail, in their order, the various legal steps necessary to be taken for the commitment of an insane person to the State Hospital for the Insane.

MINUTES

MINUTES OF THE HOUSE OF DELEGATES, SIXTY-EIGHTH ANNUAL MEETING, OF THE SOUTH CAROLINA MEDICAL ASSOCIATION.

Held in the Assembly-Room of the Charleston Hotel, Charleston, Tuesday, April 18, 1916.

The President, Dr. G. A. Neuffer of Abbeville, presiding.

Dr. Neuffer: The house will please come to order. Dr. W. G. Houseal, Chairman of the Committee on Credentials, will now make his report.

The President: The House of Delegates might adopt that report, with the exception of the Richland delegation, and take that up later.

Dr. Bailey, of Clinton: I move that that report be adopted.

Motion put, seconded and carried.

The President: The House of Delegates is ready for business, and we will follow the printed program which you all have.

Gentlemen of the House of Delegates, I desire, at this time, to make to you my annual report.

Report of the President of the South Carolina Medical Association.

To the House of Delegates of the South Carolina Medical Association:

Gentlemen:

One year ago you did me the honor to place me at the head of this Association. I wish to assure you that I accepted this evidence of your esteem and confidence with feelings of the deepest appreciation, and I most sincerely thank you. Nevertheless, I was then, and am still conscious of my unworthiness. I started out to

give the work of the Association the full measure of what ability I possessed, and during the year which is now about to close, I have endeavored at all times and under all conditions to do what I conceived to be to the best interest of our Association and our profession.

I wish now to submit to you briefly a report of the work of the Association during the past year.

I took up the matter of invited guests for our Charleston meeting pretty soon after our adjournment at Greenwood, and after considerable work on my part, I am very proud to be able to report to you that we will have as our guests Dr. William J. Mayo of Rochester, Minnessota, Dr. L. F. Barker of Baltimore, and Dr. Maynard Ladd of Harvard.

The Louisiana State Medical Association meets in New Orleans the same day that we are in session. I had a letter from its president, requesting me to appoint a fraternal delegate, but I was unable to find any member of our Association who could go.

At this meeting of our Association we will inaugurate a new movement: that is, provision will be made for the entertainment of ladies and the doctors are expected, and I believe will be accompanied by their wives, daughters, and sweethearts. This will add very much to the pleasure and interest of the Association and will certainly increase our attendance in the future. The local committee has arranged to devote one morning to clinics. The idea of this is to get away from the dry reading of papers and let the members have the opportunity of seeing work done and cases examined while attending this meeting.

For several years we have had no special rates, so in arranging for our Charleston meeting I made a strenuous effort to obtain an open rate round trip ticket, but failed to obtain this for the reason that the attendance on our meeting is not large enough to entitle us to this concession from the railroad. The last meeting in Charleston was the largest in a number of years and there were only two hundred and twenty in attendance. The railroads offered me the certificate plan, but as we had tried this at previous meetings and found it unsuccessful I thought it best not to try this again. I mention this to you to let you know that I made every effort to secure you special rates.

During the year the condition of the Association has been fairly satisfactory. We have had a loss in membership of nearly fifty-eight, the membership now standing close around seven hundred.

The Hampton County Medical Association has been reorganized, and is now on a fine footing, doing good work.

There have been a few cases of illegal practitioners reported, but these cases have been handled by the Board of Councillors.

The question of liability insurance for physicians was brought to my attention and the fact that we were the only state in which this insurance was not allowed, I took it up with Mr. McMaster, the insurance commissioner, and he wrote me that he had declined to license these companies on the ground that it would destroy the sacred relations that should exist between physician and patient, and that it would tend to make some physicians careless and provide protection for the immoral. I do not know how badly the physicians of South Carolina need the protection of liability insurance, but I mention this matter to you so that you can give it the consideration it calls for.

Our Journal is in splendid condition. The restricting of advertisements to those which are ethical, I presume has caused some loss in our receipts, still December 31st, 1915, the Journal showed a cash balance of something over two thousand dollars. The general tone of the Journal, I believe, is a stimulus to the profession in their study.

The Association's finances, as shown December 31st, 1915, has an overdraft of $116.50. I will urge the members to be more prompt in the payment of their dues to the different County Societies. There are several special funds which have balances—the Sims Memorial, fifty dollars, and the Norwood Memorial five dollars. These memorial enterprises should be closed up, and I urge the House of Delegates to take some steps to do so.

At the Dallas meeting of the Southern Medical Association a resolution was adopted, urging upon Congress the passage of legislation looking to a better military medical preparedness and the providing of a medical reserve corps, or increasing the medical corps in the army in line with the now popular and necessary idea of preparedness. This resolution passed by the Southern Medical Association made such an impression on the American Medical Association that its president Dr. William L. Rodman of Philadelphia arranged a conference with President Wilson for January 24th, 1916. He called upon the presidents of the different State medical associations to attend this conference, and as your president, I was present. There were presidents from Maine to Idaho, and we presented the matter to President Wilson, and I feel sure that it cannot fail to have some effect.

During the year the Harrison Narcotic Act has been in operation. This Act, while it imposes some hardship on the physician in the way of clerical work in rewriting narcotic prescriptions, is, I believe, one that will do much good for the general public. I believe that the framers of the Act do not expect to break the habitues, who are already using these drugs, but are looking for the greatest results in the next generation. I am heartily in favor of the proper enforcement of the law, and I believe all of our physicians are also.

I have also the pleasure to state that Mr. Albert S. Johnson, Secretary of the State Board of Charities and Corrections is to read a paper before our Association. His work is closely related in many particulars to the work of the doctor, and I desired Mr. Johnson to get acquainted and to express to as many of you as possible the aim and plans on which his Board is working.

First Aid to the Injured work is now a very prominent feature throughout the country. Each State has a first aid committee which works under the National First Aid Conference, with headquarters in Washington. I have appointed as the committee from South Carolina, Dr. Julius H. Taylor, of Columbia, Dr. S. W. Pryor of Chester, Dr. F. H. McLeod, of Florence, Dr. Charles C. Geer of Greenville, Dr. Robert S. Cathcart, Charleston, and Dr. A. Moultrie Brailsford of Mullins.

Another matter which came up and gave us considerable trouble was the optometry situation. The South Carolina Optical Association had a bill before the Legislature providing for an optical examining board. Our Association at its last meeting had gone on record as opposing such a board. The matter was handled by Dr. Julius H. Taylor, Chairman of the Committee on Public Policy and Legislation, and by consultations with me. The

first bill, which provided for only one physician as a member, and which in a few years would have no physician was defeated through the efforts of Dr. W. S. Lynch, one of our councillors, who is also a member of the Legislature, and Representative Wm. N. Graydon of Abbeville, Mr. John T. Wise, President, and Mr. T. A. W. Elgren, Secretary of the Optical Association came to Abbeville and had a long conference with me on the subject. In the meantime Dr. Taylor was in consultation with Dr. Green of Chicago, Chairman of the National Committee on Public Policy and Legislation and upon Dr. Green's advice, and our judgment, we agreed upon a compromise bill, which divided the Board of six spectacle examiners, three from the optical association and three from the South Carolina Medical Association This compromise bill, however, was introduced too late to pass the last general assembly. I told Mr. Wise that I would recommend to our House of Delegates that his Association have a hearing before us at our Charleston meeting if he so desired, and I now recommend if he asks for a hearing that one be accorded him.

I have gone somewhat into detail into this subject although Dr. Taylor will also report on it, because I feel sure that like Banquo's ghost, this question will not down, but will come up before the next meeting of the general assembly and so on until is finally settled one way or another.

In pursuance of our policy of health and public instruction Dr. G. T. Tyler of Greenville, delivered a very forceful address before the South Carolina Press Association at their 1915 meeting at Chick Springs.

Respectfully submitted,
G. A. Neuffer,
Pres. S. C. Medical Assn.

This report can be received as information and any part of it taken up at the proper time.

The Secretary: I have just heard Richland is entitled to only four delegates. Therefore, the proper four should be entered up.

Dr. Cathcart: I move that the Richland delegation decide that question among themselves.

Motion carried, and the President instructs the Richland delegation to report to the Chairman on Credentials as to the proper members.

Dr. Hines: As there are certain recommendations in the President's address to the House, I move that a Committee of Three be appointed to consider the recommendations and report back to the House.

Motion carried, and later in the morning's session the President appointed the following on that Committee:

Chairman, Dr. E. W. Fennell,
Dr. C. W. Kollock,
Dr. Hayward Gibbes.

Report of Secretary-Treasurer read, and upon motion, duly seconded and carried, received as information.

Report of Secretary-Treasurer.

The year 1915 was ushered in amidst the most trying economic disturbances for our membership, in half a century. The year 1914 closed with the high water mark, so far as the actual members was concerned, 736. The officers therefore, looked with grave concern upon the situation, for the life and activities of even the strongest organizations necessarily suffer under such circumstances. Indeed, wherever large numbers of our people are subjected to peculiar stress either of an economic or physical nature, the doctor usually bears his full share of the burden.

Some of our smaller constituent County Societies were unable to keep

up their organizations and the end of the fiscal year 1915 gave us 685 members, a net loss of 81 While such a loss is deplorable yet we are happy to record unusual compensatory changes having taken place. In no year within our knowledge has there been such encouraging messages from the County Societies, as to the increase in scientific interest and harmony. This good news applies to the smaller societies with as much force as to the larger ones in the cities.

The extent of the geographical area indicate beyond question that the revival is genuine. For instance we might mention Anderson, Charleston, Hampton, Sumter, York, Marlboro, Oconee and Columbia, though a number of others deserve similar commendation.

It is only necessary to glance over the program of this meeting, to find that papers come from every section of the State, many general practitioners, in the smaller communities as well as specialists in the cities, contributing.

As was predicted in our report a year ago there has been a decided stimulation of interest in providing more hospitals for the sick public, and as a rule wherever these institutions are established, there begins immediately a more advanced scientific spirit, in the local profession.

It is gratifying that the high standard of Medical Education fostered by the South Carolina Medical Association, from the day of its birth, in this city February 14th, 1848 to the present time, has a strong supporter in the Medical College of the State of South Carolina. Approximately fifty per cent of the members of the South Carolina Medical Association graduated from this time honored Institution and the training given there profoundly affects our progress and destiny. The advance to class A and the admittance to the Association of the American Medical Colleges assures us that the scientific training of large numbers of our future membership, at the Medical College of the State of South Carolina, will be in safe hands.

The onward march of scientific progress leads to the observation that the haphazard program has become almost a relic of the past, as it deserves.

Many of the County Societies map out definite lines of study, hold practical clinics or undertake special public health campaigns. The machinery of organization appears well nigh complete. The district societies are doing good work and the prospect for further organization of County Societies remote. For this satisfactory status much is due to the earnest labors of the individual Councilors and our President. There is no logical reason why every eligible legal practitioner should not become a member of the South Carolina Medical Association, and thus enlarge our rolls to one thousand. Here therefore, is room for aggressive endeavor. At this juncture perhaps should be mentioned, that according to instructions of the House of Delegates last year, the Secretary wrote the Department of Internal Revenue at Washington, urging that in the administration of the Harrison narcotic law special vigilence be exercised that only legally qualified practitioners be granted license. A prompt reply was received that the department would take active steps to this end.

Financial Statement of all moneys in the hands of the Treasurer Jan. 1st, 1916:

Statement Treasurer, 1915.

Balance Cash on Hand Jan. 1st, 1915	$ 417.96
Cash Collected from Jan. 1st, 1915, to Dec. 31st, 1915	1,357.00
Total	$1,774.96
Cash Expended from January 1st, 1915, to December 31st, 1915	$1,891.06
Overdraft at the Seneca Bank	$ 116.10

Statement Journal, 1915.

Balance Cash on Hand Jan. 1st, 1915	$ 817.19
Cash collected from January 1st, 1915 to December 31st, 1915	3,578.30
Total	$4,395.49
Cash expended from January 1st, 1915, to December 31st, 1915	3,236.69
Balance Cash on Hand Jan. 1st, 1916	$1,158.80
Certificate of Deposit—Seneca Bank	1,000.00
Total	$2,158.80

Special Funds.

Norwood Memorial Fund	$ 5.00
Sims Memorial Fund	50.00
Fund for P. I. P.	130.67
	$ 185.67

Dr. Gibbes: Mr. President, the Richland delegation have decided that Doctors Bunch, DuBose, Durham, and Gibbes constitute the delegation from Richland.

Report of Committee on Revision Medical Practice Act read by the Chairman, Dr. Boozer.

Dr. Boozer: Of course, the sections that are not changed, there will be no necessity to read. For instance, section 3, there is no change except just the necessary change in the latter part of it, where it says, (see sec. 3), if the act is adopted and goes into effect next year.

The next Section is Sec. 4, which is changed simply to meet certain exigencies, as we thought best. The reason of that change is simply because some of the colleges have their commencement too late for the second Tuesday. The reason that a second examination was not specified there was because we thought that it might be advisable, as time went on, to change from November, or whatever month was decided upon, and it would not be necessary to re-open the Act to have that second meeting.

The next Section is the raising from $10. to $20. That is the average fee charged by the different boards of the United States. Many charge $25.

Sec. 5-a becomes Section 6, and remains unchanged.

Sec. 6 becomes Sec. 7, and is changed as follows: (See Section). That is the changing of the educational preliminary requirements, and is in harmony with the requirements of the S. C. Medical College. The matriculates of this year enter under this standard, which will apply to graduates of 1920. Therefore we can only make our preliminary of two years college work apply to the applicants of 1920.

Sec. 7 becomes Sec. 8.

Sec. 9, (See Sec. 9).

Sections 10 and 11 remain the same. (See Secs. 12, 13 and 14).

That puts the prosecution of illegal practitioners in a different phase from the way the Act has it now. The Committee studied that proposition quite a good deal and the most drastic measures that we found were in the Louisiana law, but we not having any legal adviser in the matter, did not know whether this measure would hold in South Carolina. The

one we have put in we felt sure would. There is a similar law in New Hampshire, which has also been recently adopted by North Carolina.

For the information of the House of Delegates, the Committee thought best that we read the Louisiana law, and if the House of Delegates so desire, we could adopt that tentatively; that is, in case it could be made a law in this State it would certainly meet the requirements, the Committee thought, better than any law we were able to find.

The Board thought that a very good law. Whether it will go in South Carolina, we do not know the legal side of it, but if the House desires to adopt that, if it will go through, the Committee will be pleased to add their approval thereto.

(See Setions 15, 16, 17 and 18).

Now, Mr. President, as I stated at the outset, the Committee had no right to call in any assistance in the preparation of this Act. We got together what we thought was the best of the acts of the United States. We have an act that is standard, that will meet the requirements of any State. The acts that is built on are Pennsylvania, New York, Louisiana, Indiana, and some parts of Georgia. As to whether the legal part will stand or not is uncertain, so we would suggest that this be referred back to the Committee, to consult a competent attorney to legalize it or do whatever is necessary to have that work done. We think it very necessary to have the legal part of it gotten into perfect shape. Just in the last few days we have information to the effect that some parts of it may not be absolutely iron-clad

The President: The House has heard the report of this Committee. What is the pleasure of the House?

Dr. Harry Wyman: Mr. President, I thought it would be a good idea to let the House discuss this thing and acting upon it, appoint a committee of ten, including this present committee, and giving them full power to adopt this act or to make any minor changes, without our going all into it. I think we could find ten members of the Association who could do that, and I, myself, would be willing to trust it, and I make a motion to that effect.

Motion seconded.

Dr. Gambrell: I move to amend that by adding that this Committee consult a competent attorney.

Amendment accepted.

Dr. Wyman: This committee must see that this bill is carried through; co-operate with the Legislative Committee and act with them. After this motion was made I was going to suggest that the President appoint a committee of one from each county, to go up to the Legislature and see that this thing is pushed through.

The President: Any further remarks?

Dr. Matthews: I think the personnel of the General Assembly will change half or more. It may be we would not have the support we would like to have, and it might be better to carry it over another year. I think that should be left to the discretion of the Committee to be appointed.

Dr. Young: It strikes me that the House should formally approve of this report, then turn whatever changes might be necessary over to this proposed committee. We have not acted upon it yet. I think we should formally approve it or reject it, one.

Dr. Epting: In regard to appointing counsel: wouldn't the Attorney General be the proper person to look after that?

Dr. Harry Wyman: That would not be his duty.

Dr. Boozer: The Attorney General was thought of in the proposition by the committee, but while he has always been very glad to give information and advice to the State Board of Examiners in any question taken to him, this committee did not feel that they had the right to ask him to pass an opinion upon anything that was not yet a law. I don't think it would be exactly in his province, but I do think the matter should be gone through carefully with a competent attorney. It is almost impossible to get an absolutely iron-clad proposition and we want to get it as nearly so as possible.

Dr. Young: I wish to suggest that the House formally approve of the proposed changes in the Medical Practice Act and that a committee of ten, including the three members now on it, be appointed to have charge of the passage of the act at the legislature,—to pass it whenever they see fit.

Dr. Wyman: I accept that resolution with the exception of "Whenever they see fit."

Dr. Young: I drop out "Whenever they see fit."

The President: Then I understand that this House of Delegates adopts the Medical Practice Act as suggested by the committee, and that a committee of ten be appointed, including this three, to have charge of the passage of this act.

Dr. F. L. Parker: Before that is passed, I think $20. is a great deal to pay, and it appears to me that the State ought to pay the expenses.

Dr. Burdell: I do not think, as the substitute motion was offered that it authorizes the committee to engage the services of an attorney. I would like to add that as an amendment,—that the committee be authorized to engage the services of an attorney if they see fit.

Amendment accepted.

Dr. Ross: This committee of ten can re-arrange re-adjust or improve on this?

The President: No, sir, the motion is that we adopt this as substituted, and if we do that, this committee cannot do anything.

Dr. Wyman: That was not my motion.

The President: You accepted that.

Dr. Ross: There are one or two matters there that this committee would like changed. My impression is that Dr. Wyman's original motion was to let this committee make any little changes in this that they see fit.

Dr. Wyman: I am not posted on parliamentary law. I want to revert to my original motion.

The President: I do not believe you can reconsider that.

Dr. Wyman: Mr. President, I move to table the substitute motion

Seconded by Dr. Burdell.

Motion carried, and the substitute motion ordered tabled.

Dr. Wyman: I move again, Mr. President, that the President appoint a committee of ten, including the present committee, to take charge of this bill, make any little amendments that Dr. Boozer has suggested for the improvement or cutting out, and have the power to secure the services of a competent attorney and see that this bill is put up to the legislature in the proper form and pushed through with the aid of the legislative committee, and that this association pay the expenses of this attorney.

The President: Any remarks?

Dr. Wyman: Our adoption of this bill does not make it legal. It is after the legislature passes it.

The President: Dr. Wyman's motion is before the house.

Motion stated, seconded and carried.

Dr. Mauldin: I would like to move that the necessary expenses incurred by the committee on the Medical Practice Act be paid by the Treasurer.

Motion stated, seconded and carried.

The President: We will have the report of the Scientific Committee.

The Secretary: Dr. Hughes, as the Chairman of that Committee, is not able to be here. He attempted to get up a paper on bone surgery, gall-bladder surgery, and syphilitic phases of the eye, but we were not able to get up this symposium.

Report of Committee on Public Policy and Legislation read by Dr. Young, and report accepted as information.

Report of the State Board of Health read by Dr. Robert Wilson, and accepted as information.

Report of State Board of Health.

To the President and Members of the House of Delegates:

Gentlemen:

It is very gratifying to report that during the past year "South Carolina has been remarkably free" from infectious diseases. The vigorous campaign of vaccination against smallpox which has been carried on throughout the State and the free distribution of diphtheria antitoxin has enabled us to control these diseases in a large degree, and to lower materially the death rate from them. Smallpox, however, is still widely spread in the State and ready to develop into serious proportions if we permit any remission in our vigilance.

While there is no doubt that typhoid fever has decreased considerably during the past year, it is, nevertheless, a sad reflection upon the sanitary intelligence of our people that the death rate from this malady continues very high. A disease whose death rate in some cities has been reduced to 20 per 100,000 of population in South Carolina has a death rate of 316 per 100,000, and yet this is a disease whose course and modes of transmission are definitely known and which may be prevented with comparatively little difficulty. At a conservative estimate, sanitary ignorance or sanitary carelessness with regard to typhoid fever is costing the people of the State between two and three hundred thousand dollars per annum. Surely there is nothing which illustrates with greater emphasis the need of securing from the General Assembly a liberal support for the activities of the State Board of Health.

The problem of malaria is much more difficult of solution, but the Board of Health is making great efforts to spread the knowledge of how to prevent this disease whose prevalence exercises such a vital influence upon the economic development of extensive portions of our State. In this connection the State Health Officer has made an important recommendation that a law be passed forbidding the impounding of waters in South Carolina, unless a survey has been made first by competent sanitary engineers, for the purpose of determining the probable effect of such impounding upon the health of the community which may be affected, and a report submitted to the State Board of Health.

The reports of the past year show that the gravity of the pellagra situation is even greater than ever, there having been a distinct increase in the number of cases. This disease in South Carolina now ranks second only to tuberculosis as a cause of death. The observations and experiments of Dr. Joseph Goldberger of the U. S. Public Health Service seem to have placed the dietary treatment of pellagra upon a firmer basis, but we feel that the problem is yet a long way from solution, and we are of the opinion still, that it would be a wise step for our State, whose interests are so vitally involved, to make an adequate appropriation to aid in the study of this vexing and mysterious disease.

The South Carolina Sanatorium for the treatment of tuberculosis, situated at State Park, about three miles from Columbia, has been in operation since last May under the direction of Dr. Ernest Cooper. So far we have been able to construct and operate only a single building of the lean-to type, with accommodations for sixteen male patients, but at the last session of the General Assembly provision was made for a corresponding building for women patients. The following report of Dr. Cooper gives the results accomplished to date:

"The South Carolina Sanatorium for the treatment of tuberculosis received its first patient May 22, 1915; a total of thirty-three having been admitted to date. Three have been incipient, eighteen moderately advanced, and twelve far advanced cases.

Of the twenty patients discharged, fourteen have been improved, and six unimproved. There are now thirteen resident patients, eight of whom are improved and five unimproved. However, three of the latter group have been under treatment only about one month.

The officials of the State Hospital for the Insane have kindly furnished labor for the clearing of land immediately surrounding the Sanitorium buildings, and a beginning has been made in improving the grounds.

The institution has furnished from its own cows practically all the milk used. A much needed pasture will be fenced soon.

A building for women accommodating sixteen patients will be completed by July 1, 1916.

It is suggested that some effort be made to impress the physicians of the State with the importance of an early diagnosis, and with the benefit to the patient of a stay at an institution where correct methods of living may be learned."

We urge most earnestly the support of the medical profession for this long-needed institution, and plead for your co-operation in our efforts to make it of permanent and increasing value to the State.

It is especially gratifying to report the growing usefulness of the State Laboratory. During the year 1915 6835 diagnostic examinations were made, 35,397 ampuls of typhoid vaccine were sent out, and 236 complete treatments for rabies given. Since January 1st to March 31st of the current year, 588 diagnostic examinations have been made, 1,759 ampuls of typhoid vaccine distributed, and 72 patients treated for rabies.

At the last session of the General Assembly, a bill was passed providing for free Wassermann tests to be made in the State Laboratory. This bill has been signed by the Governor and is now an Act. The Board of Health wishes to announce that the Director of the Laboratory is prepared to make the Wassermann Test for all persons, and that suitable containers for specimens will be sent on request. Specimens will be taken at the Laboratory between the hours of 10 A. M. and 11 A. M.

In conclusion I wish to report the successful establishment and operation of the Bureau of Vital Statistics. The State Health Officer will present at the general session, a paper dealing with the work of the Bureau during the first year, which makes further allusion at this time unnecessary.

Respectfully,
Robert Wilson, Jr.,
Chm'n. State Board of Health.

Dr. Wyman: I move that the suggestions in that report be referred to the Legislative Committee with power to act.

Motion seconded and carried.

Report of Committee on Study and Prevention of Tuberculosis, read by the Secretary, in the absence of the Chairman, Dr. John L. Dawson, of Charleston.

Report received as information.

REPORT OF COMMITTEE ON STUDY AND PREVENTION OF TUBERCULOSIS.

To the Officers and Members of the South Carolina State Medical Association:

Gentlemen:

I regret to say that as there has been a great falling off in the interest in the treatment of tuberculosis in

this state, and the caring of the tubercular poor, I have been unable to get any data for an annual report. I have written to the other two members of my committee but they have been unable to aid me, and the only report that I can give you is for the work done here through my personal efforts. I conduct a small outdoor clinic myself, and we have a very commendable society known as the Society for the Study and Prevention of Tuberculosis which has been doing very good work in helping to feed and instruct the poorer classes. We are gradually accumulating sufficient funds through membership and donations to ultimately hire a visiting nurse. This we hope to succeed in doing in the near future. If all the counties in the state would work on a small nucleus for a beginning as we have done, I am sure great good would accrue, but it seems hard that even the medical profession fail to lend a helping hand in this most worthy charity.

Yours very truly,
John L. Dawson, M. D., Chm.,
Com. Study & Prevention
Tuberculosis.

Report of State Board of Medical Examiners, read by Dr. Boozer.

Report of the State Board of Medical Examiners of South Carolina for the year 1915.

The term of office of Drs. J. T. Taylor, John Lyon, E. W. Pressly and J. J. Watson expired with the April, 1915, meeting of the South Carolina Medical Association. The House of Delegates proceeded with the nomination of members to fill these vacancies on the Board, with the result that each member was re-elected to succeed himself. All nominations were then confirmed by the Association and the members appointed and commissioned by the Governor to serve their respective terms of office.

The Board met at the State House at 3 p. m., June 7, 1915, and November 8, 1915, and registered applicants to practice medicine and for nurses' registration.

At 9 P. M. the Board met at the Hotel Jerome with the following members present: Drs. Harry H. Wyman, J. J. Watson, John Lyon, H. L. Shaw, E. W. Pressly, A. Moultrie Brailsford, J. T. Taylor and A. Earle Boozer. The annual election of officers was held, and the following were elected: President, Dr. Harry H. Wyman; Secretary-Treasurer, Dr. A. Earle Boozer.

The examination questions proposed by the members were considered and approved, and the following order of examination was adopted: Tuesday, 9-12, Dr. Pressly; 3-6, Dr. Shaw; 8-11, Dr. Watson. Wednesday, 9-12, Dr. Lyon; 3-6, Dr. Taylor; 8-11, Dr. Wyman. Thursday, 9-12, Dr. Brailsford; 12-3, Dr. Boozer.

Applicants for Examination.

Doctors ..June, 61; November, 36	97
Nurses...June, 53; November, 51	104
Total	201

Doctors.

White males	81
Colored males	15
White females	1
Total	97

Nurses.

White	100
Colored	4
Total	104
Grand Total	201

The Board met at Columbia, S. C., in July and December, 1915, to tabulate the grades made by the applicants at the June and November examinations, with the following results:

White, passed, 47; colored, passed, 6; total	53
White, failed, 35; colored, failed, 9; total	44
Total	97

Nurses.

White, passed, 68; colored, passed, 1; total	69
White, failed, 32; colored, failed, 3; total	35
Total	194
Grand total	201

When the Harrison Narcotic Law became effective on March 1, 1915, the office of the Collector of Internal Revenue, upon which devolved its administration, found itself without

records that would enable it to discriminate between practitioners legally engaged in their practice and those illegally engaged As a consequence, all applicants making the required affidavit in their application were registered and granted tax stamps in the absence of any means by which to determine their legal status. Before the expiration of the fiscal year ending June 30, 1915, it became apparent that many persons not entitled to the benefit of the law were availing themselves of its protection, although they had not qualified by complying with the State law by having been licensed as legal practitioners by the State Board of Examiners.

To meet this dilemma, the Collector of Internal Revenue was granted access to the records of the State Board of Medical Examiners. A list of all physicians licensed by the Board was compiled. This list, taken in connection with the standard medical directories served as a substantial basis to ascertain who were qualified for registration under the Harrison Law by having conformed to the State law, as well as those who were not qualified.

Through this harmonious co-operation between the office of the Collector and the Secretary of the State Board of Medical Examiners, a wholesome process of weeding out was begun which to date has eliminated 171 persons who had been previously registered though not entitled to registration.

The records of the Collector's office show that 151 practitioners of all classes, who had registered when the law became effective on March 1, were not again registered on July 1, the beginning of the present fiscal year. Most of these did not apply for registration; the others were refused. Of this total, 9 were physicians; 17 dentists; 11 veterinarians and 44 druggists. Since the beginning of the present fiscal year, July 1, 1915, twenty tax stamps issued for this period have been recalled and the registry numbers revoked. Of this number 10 were physicians, 3 dentists, and 7 druggists. This process of elimination has not yet been completed.

The total registration to date has been 2555. Deducting the 171 accounted for above, there are now 2384 tax-payers registered in South Carolina under this law.

Since March a year ago, 51 violations of the law have been detected. Six of these violators have been convicted before the United States Court, and received sentence. It is a notable fact that in every case brought to trial the defendant has pleaded guilty. Only those have been taken before the court who appeared to be in wilful violation of the law Thirty-two cases, in which the breach was obviously due to ignorance of technical requirements and attended by other extenuating circumstances, were settled out of court by the acceptance of offers in compromise ranging in amount from five to fifty dollars. Thirteen cases are now pending, several of which it is expected will be tried during the June term of court in Florence.

If there are still some practitioners registered under this law who should not be permitted to practice under its provisions, it should be borne in mind that a physician, dentist, veterinarian or druggist who holds a license from his State Board of Examiners is entitled to all the rights of the law and can not be refused registration, provided he meets all other requirements. If it is necessary to carry this process of elimination still farther, it will first be necessary that the State license of delinquents be revoked, or such other action instituted as will prove a violation of the State law The Department at Washington, in its interpretation of the law, makes it clear that whenever a person desires to register under the Harrison Law, the Collector or his deputy should require such person to make affidavit to his application that he is legally entitled to practice his profession, and is duly authorized by law to administer, dispense or prescribe narcotic drugs If it is subsequently proven that he violated the State law, proceedings will be instituted against him on the charges of perjury and of having made false returns.

It is specifically set forth as the desire of the Commissioner of Inter-

nal Revenue, and also of the Collector of this district, that no person be permitted to become registered who, in doing so, violates the State law.

Respectfully submitted,
Dr. Earle Boozer, Sec.
Columbia, S. C.
April 15, 1916.

Dr. Boozer: Mr. President, the Board wishes to present a supplementary report as to the experience with the enforcement of the Harrison Anti-Narcotic Law. The Collector of Internal Revenue gave me these statistics and I have gotten them together for the information of the Society.

Report received as information.

Report of Norwood Memorial Committee, read by Dr. Burdell.

The President: This is one of those memorial funds that we would like to close up.

Dr. Coward: If there is no discussion, would suggest that another committee be appointed, or the present committee be continued. We only need about $2.50 and with a little energetic work we can get this sum and put up this memorial.

The President: It is so ordered.

The President: We have with us the fraternal delegate from North Carolina, Dr. R. E. McMillan of Red Springs. We are glad to see him and would be glad to have him make some remarks.

Dr. McMillan: Gentlemen, I am not much of a talker, but I wish to bring you hearty fraternal greetings from the North Carolina Medical Society.

The President: We are pleased to have you with us, Dr. McMillan.

Upon motion of Dr. Bunch, duly seconded and carried, the privileges of the floor extended to Dr. McMillan.

REPORT OF COUNCILORS:

Dr. C. B. Earle, Greenville, S. C.

Mr. President, there is nothing of any special importance that the council has to report. The Secretary in his report, as Treasurer and Editor, has given you a brief resume of the conditions of the State Association and of the Journal.

I audited the books of the Treasurer and of the Editor this past winter and found them correct.

Dr. Hines has instituted a new system of keeping his vouchers and books which I think in future will add much to the ease of finding out the final status in the future.

In regard to the new County of McCormick, formed from the counties of Abbeville, Greenwood and Edgefield, that part of Edgefield being in a different district from the other, the County of McCormick should be added to the third medical district. It can be very well attended to by the councilor from the third district.

I wish to commend the Associate Editors of the Journal for the work that they have done in assisting Dr. Hines. Many of the editorials that have come out in the past few months have been made by members of the associate board, and Dr. Hines wishes commendation to be made from the floor of the house. (Applause).

The President: In regard to the putting of McCormick County in the third district would require a motion.

Dr. Morse: I move that the new County of McCormick be added to the third councilor district.

Seconded and carried.

Report received as information.

First District Report read by Dr. A. E. Baker, of Charleston, and received as information.

Second District. Dr. J. S. Matthews,

Denmark, South Carolina:

Mr. President, I had the wind taken out of my sails by the Secretary when he told me that Hampton County had been organized.

We have held, during the past year, two district meetings, one in January and one in July preceding, and we are on the verge of naming two places in the district as regular meeting places: one is in Bamberg and the other is in Orangeburg, in order to make it central for all counties.

We have also made the fee for the district membership one dollar, fifty cents of the fee going to the furnishing dinner for the society at each meeting place; therefore the gentlemen are at no expense except to pay their railroad fare or to drive over in their car.

We still have in the district three or four men practicing without license. Two of those men are going rigidly before the examining board, and I do hope, in the course of time, that they will get their license.

Report received as information.

THIRD DISTRICT.

Report read by Dr. T. L. W. Bailey, of Clinton.

Report of Councilor, Third District.

Clinton, S. C., April 17, 1916.

Dr. C. B. Earle, Chairman,
Columbia, S. C.

Dear Sir:

I hereby submit my report as Councilor of Third District. The Third District is doing good work. The respective counties all have made special efforts to improve their work and increase their membership. No complaint has been referred to the Councilor.

I have attended all the Societies during the year.

Respectfully submitted,

T. L. W. Bailey.

Dr. Bailey: In addition to that, but not embodied in that report, I wish to call your attention to the annual district work we do at the district meeting. We have that every year, well attended and very profitable

There are some irregular practitioners held over but we have decided not to do anything just at present.

FOURTH DISTRICT.

Dr. C. B. Earle, Greenville.

As usual, Mr. President, the Fourth District is still the banner district of the State. (Laughter).

All of our County Societies are doing very well. The meetings are regular. We are handicapped somewhat by the Oconee and Pickens Counties having all the available material taken in.

In Anderson they are doing very good work there and combining the clinical feature in some measure with the county work, making use of the hospital in Anderson which is a County hospital.

In Spartanburg the conditions are unusually good, in contradistinction to what they have done in the past. They have recently organized a medical club in Spartanburg, in which the members take great interest, and there is less knocking and more harmony there than I have known.

The banner County is still Union, and all the members take an active interest.

Greenville is actively engaged in more or less health work. The County Society, by reason of the influence of Dr. Hayne, who has gotten seven or eight men from the Marine Hospital Service and making a survey of the conditions and trying to wipe out typhoid fever, which is a disgrace to the State. In the county we still have a few cases of typhoid, that you other men send into the county and infect

our districts, but we are going to try to wipe that out now.

Our District Society meets in the Fall. When one physician goes from one district to another he is not assessed to pay for his dinner. The County pays for his dinner and acts as host and the guest is not charged.

We will be glad to have Dr. Matthews come up, and we will not assess him.

Quite an active interest is taken in the District Society and it tends to bring the members of the counties together in a better way, I think, than even the State Medical Association.

There have been no open prosecutions of violators of illegal practitioners, but we have had, through the Harrison Act, and other measures, several to stop practicing. One, a young man who is a graduate of a defunct college, has been practicing for several years, but has at last consented to come to Charleston and pursue his studies and pass the State Board.

FIFTH DISTRICT.

The Secretary: Dr. Walker is absent, and I have a telegram which I would like to read from him.

York, S. C., Apr. 17, 1916.

Dr. E. A. Hines, Secretary,
S. C. Medical Assn.,
Charleston, S. C.

Am bound over to court, cannot get away. Express my kindest regards to the House of Delegates and Council. Will mail my report.

M. J. Walker,
Councilor of Fifth Dist.

SIXTH DISTRICT.

Report read by Dr. W. S. Lynch, Scranton, S. C.

Report of Councilor of Sixth District.

Mr. President and Gentlemen of
The House of Delegates:

As Councilor for the Sixth District, I respectfully submit my second annual report. My district is composed of the following counties: Chesterfield, Darlington, Marlboro, Marion, Dillon, Horry and Florence. I regret to say that I haven't visited any of the County Societies, on account of pressure of business, but from what information I can gather, all of the Societies in my District are well attended and a spirit of fraternal elation exist among the members. The matter of Illegal Practitioners, is the most difficult problem that I have to deal with as Councilor. At present Darlington County is the only County in my District that is free from Illegal Practitioners of Medicine.

Last September, my predecessor and friend, the late Dr. Faison, reported a party to me for practicing medicine without license. I immediately went to Bennettsville. Dr. Faison assisted me in getting the evidence. We thought we had a good case, employed the best Counsel, had warrant issued and bound the party over to the court. At the trial, the grand jury reported no bill. This party has never attended any Medical College and is now practicing medicine, and I am informed, making as much money as any physician in Marlboro County.

I am also in receipt of a report from Chesterfield County, which after an investigation found the gentleman came to our State the latter part of 1915, graduating from the Atlanta School of Medicine in class of 1910, and was licensed by the Alabama board and practiced there, until the time he came to South Carolina. This party came to see me, brought with him his diploma and license from Alabama, stating that he had not had an opportunity to go before our board, but would meet them next time, and in the event that he did not or failed to pass, he would leave the State. On

this promise I directed him to return from whence he came and prepare to meet the board.

I desire to say that one of the gentlemen from my home County, who has defied the law for several years, has recently been charged and convicted of petty larceny. He paid his fine and immediately left our State. We have two more in Florence County practicing now. One of them, Counsel has been employed and we are getting up the evidence, at this time for prosecution. It is my intention to secure sufficient evidence to convict this party.

W. S. Lynch, M. D.

Scranton, S. C.

SEVENTH DISTRICT.

No report made on account of the illness of Dr. Baker, (the Secretary).

EIGHTH DISTRICT.

The Secretary: Mr. President, I understand Dr. Timmerman has been very ill. I have a letter from him which I would like to read.

Batesburg, S. C., Apr. 15, 1916.

Dr. E. A. Hines, Secretary,

Seneca, S. C.

Dear Doctor:

I received the statement sent me by you and commend you most highly for your good business management. I appreciate your kind expressions.

I am glad to report that I am about well and am feeling comfortably.

I fully intended to attend the meeting in Charleston, but find that I am not physically able to do so.

I am inclosing my report as Councilor and will be glad for you to present same for me. Please express to the others my regret for not being able to meet with them.

I wish you a most successful and pleasant meeting.

Your old friend,

W. Price Timmerman.

Report of Councilor, Eighth District.

I have visited each of the County Societies of this District, one or more times during the past year. All of them seem to be in good working condition.

The Aiken County Medical Society continues to mourn the loss of the late Dr. Croft, whose death occurred prior to our last meeting.

The Lexington County Medical Society has lost by death, one of its best and oldest members, in Dr. W. S. Kneece, a report of which doubtless, the Committee on Necrology already has.

We have quite a live District Association, which meets every six months.

During the past year, hospitals have been established in Aiken and Leesville.

Respectfully submitted,

W. P. Timmerman,

Councilor Eighth District.

RESOLVED: That the House of Delegates hereby expresses its appreciation of the services rendered the Association and the State by Hon. D. C. Heyward, Collector of Internal Revenue, in weeding out illegal practitioners under the Harrison Anti-Narcotic Act.

Report of Delegate to American Medical Association read by Dr. Hines, and received as information.

Report of Delegate to the American Medical Association.

To the House of Delegates.

Gentlemen:

As your delegate I attended the meeting of the American Medical Association, held at San Francisco, California, June 21st to 24th, 1915. The meeting was housed in the Exposition Memorial Auditorium, conveniently located near the business and hotel district, and the marvel of it was, this

building was commodious enough to provide accommodations for all the various sections of this great organization. It goes without saying that such unique arrangement was highly conducive to dispatch of business, as well as to the convenience of the members.

Retiring President Vaughn, in his remarks to the House of Delegates, thought the time had come for the American Medical Association to send skilled clinical teachers into the several States to supplement the work of the Post Graduate Schools.

The Secretary reported a membership of 42,366. One of the reports before the House, was that of the Board of Trustees, on the work of the Co-operative Advertising Bureau, which necessarily includes our own Journal. A brief extract is interesting. "The Bureau is proving to be a help and a stimulus to the State Journals in many ways. Twenty-four State Journals, the official publications of twenty-eight State Associations, now co-operate in this organization. The Bureau was established December 1st, 1913, at which time twenty-two Journals joined in this movement. The original twenty-two Journals were published in thirteen different sizes. They have now been standardized in the two generally accepted sizes for medical papers, and the quality of the printed papers has been greatly improved. These mechanical improvements are marked; they have been commended by the readers, as well as by the advertising patrons. In addition to these physical improvements there has been a notable advance in the scientific character of the articles published in the Journals."

The report of the Treasurer showed that the A. M. A. expends approximately one hundred thousand dollars annually for altruistic aims, indeed a policy of retrenchment has now become urgent.

The report of the Judicial Council through its chairman, Dr. Alexander Lambert of New York, submitted the most exhaustive and voluminous study of any of the committees on the Economic Status of the profession in this country in relation to Workmen's Compensation Laws and the various phases of health insurance, in the United States and abroad, notably Germany and England. More than half of the States of the Union have enacted laws bearing on this matter. They are gradually invading the South and soon we will be forced to a serious consideration of the situation, just as has been done over the greater part of the world. The latest great struggle with the problem was in England, where the British Medical Association spent half a million dollars fighting the proposition. Seeing that we in this section would, at an early date, be called upon to consider this question, I sought an audience with the Secretary of the British Medical Association in London in 1914, and he informed me that the Insurance Law had worked out much better than they anticipated and that the income of the general practitioner had been, in many instances, quadrupled.

The House of Delegates set the stamp of its approval upon the successful efforts being made to give the public a pure milk supply and commends this propaganda to the attention of County and State Societies.

Wednesday of the meeting was given over entirely to Public Health addresses and demonstrations in commemoration of the opening of the Panama Canal. It was estimated that fifteen or twenty thousand persons were present during the day.

That night from the balcony of the

grand ball room in the California building at the exposition and midst the gayety and glory of the vast assemblage, the President of the Exposition Company placed in the hands of Dr. Wm. L. Rodman an appropriate medal, in honor of the part the American doctor had played in the execution of the stupendous enterprise and frankly acknowledged that without his practical genius, the completion of the canal and the exposition, itself would not have been possible.

We, who stood awe-inspired by the significance of the occasion and heard President Rodman's eloquent response, little dreamed that in a few short months, his brilliant brain would be silent and his extraordinary activities forever stilled.

He was born in Kentucky and proud of his Southern heritage. He loved South Carolina and her people, having visited this State a number of times, in his early manhood. His great work will no doubt find a place in the annals of the future, as we reap the benefits of a National Examining Board, Medical Preparedness in the army, more intensive study of cancer and a probable National De-

As your delegate, I have fortunately been placed on an important committee every year since my entrance into the House of Delegates and therefore now have a wide circle of personal acquaintance with the leaders there, as well as an intimate knowledge of the workings of the legislative body itself.

It was hoped that the 1915 appointment of delegates would give our State an additional one, and so it would, but the ratio was materially increased to a requirement of one delegate to every 765 members or fraction thereof. However, only two States gained—one each by California and West Virginia, while Louisiana and Ohio lost one each.

The Association elected for President another Southerner, Surgeon-General Rupert Blue indeed we claim him as a South Carolinian. The next meeting will be held at Detroit, Mich., June 12th to 16th, 1916.

Respectfully submitted,

E. A. Hines.

Report Committee on Necrology, Read by Dr. Tripp.

Dr. Cathcart: I would like to ask Dr. Tripp if he included in his report the names of Dr. John Forest and of Dr. St. Elmo Glover of Charleston.

Dr. Tripp: I did not have Dr. John Forest.

Dr. Cathcart: Dr. O. W. Southerland should be added to that report.

Dr. Tripp: Gentlemen, the reason I made that report, after writing to each County secretary I find it is impossible to make a full report. When a member passes away, if the secretary of each society would send in a notice to the State Secretary, it woul dbe properly published. I think that it ought to be brought up in the Journal, and I see no use for the committee on Necrology. I think each County secretary should get up a report from his own County and write a full report to the State Secretary. I do not think, under the present system, there is ever an accurate report made.

(Dr. Tripp's report received as information).

Report of Sims' Memorial Committee.

Dr. Kollock: Dr. Baker is not here. I haven't the report written, as I did not know that Dr. Baker would not be here. I think perhaps we have $150.00 collected. There are a number of pledges, but they have not been collected.

Last year the Committee concluded it would be better not to try to collect money on account of everyone's financial condition, which seemed to be pretty bad.

(Report received as information.)

Report of Committee on Prevention of Venereal Diseases.

Read by the Chairman, Dr. Marion Wyman.

Dr. Gibbes: Mr. President, the one resolution brought to the House of Delegates and about which there is a legitimate ground of difference of opinion is that concerning the propaganda of education concerning venereal disease. He recommends, in a general way, that this propaganda for education be conducted.

I am sure if the proper means for education can be established that it will meet with the hearty approval of practically all members of the House of Delegates.

Just what means would be the proper ones it is hard for us to say, and therefore I feel a hesitancy in commending the resolution as offered by the committee. If the committee can present to us a concerted scheme by which this educational propaganda is to be conducted, it will give us something to aim at and to form our opinions as to whether it should be acted upon adversely or favorably.

For that reason I, for one, am not in favor of accepting the resolution as offered by that committee. If the Doctor will elucidate the resolutions, I shall possibly be glad to take a different view of the matter.

Dr. Robert Wilson: I had not intended to say anything on this matter this year, nor am I going to say very much, but simply to offer a resolution.

I most heartily favor the position Dr. Gibbes has just taken.

While I am convinced that the only way of reaching venereal trouble is by means of education, I am far from being satisfied as to how that education should be put into effect, and I believe if we go at it in the way as represented, (which is exceedingly indefinite, as Dr. Gibbes remarks,) there is danger ultimately. I do not think it is safe for this body to recommend the resolutions as set forth

I move, therefore, that the recommendations made by the committee be adopted, with the exception of the resolution advising the educational propaganda.

Seconded by several.

Dr. Marion Wyman: Mr. President, I would like to offer as an amendment, if Dr. Wilson will accept it, that we go on record as favoring education which could be carried on by physicians only. That is, that we favor only the properly-informed physician educating.

Dr. Wilson: What does the Doctor mean by the physician? The individuals, or by large groups? I think that much good can be accomplished by heart-to-heart talks to the individual.

Dr. Wyman: If the physician should study this thing properly he could decide at any given time the best way to present it. It seems to me we should take some action as to whether the education as carried on by the Y. M. C. A., the Boy Scouts, and others, is the best education.

I make an amendment, that the House of Delegates favor the physician educating the individual in venereal matters

The President: Dr. Wilson, do you accept that?

Dr. Wilson: The best way is to let some one second it.

The President: If you accept it it becomes a motion.

Dr. Wilson: If Dr. Wyman will put his amendment in writing and let the Secretary read it.

Dr. Wyman: I will withdraw it.

Dr. Gibbes: I happen to know that this matter is very dear to Dr. Wyman's heart. He is very much interested in having the Association go on record as favoring some means of educational propaganda of matters of this kind, and I feel, too, that Dr. Wilson also favors education properly conducted, and it is just simply the question of determining the proper method of this education, and I should like to have the Association go on record, favoring, in a general way, the suggestion of this committee; and I would like to offer as an amendment to Dr. Wilson's motion that this House of Delegates favors the personal education of the patients concerning matters pertaining to venereal disease. That gives the committee a footing upon the ground that they are most anxious to obtain a footing upon.

The President: Dr. Wilson, you have heard Dr. Gibbes' view of the matter. What about it?

Dr. Wilson: That is my position, too.

The President: Then this report is adopted, with the exception of the last resolution, but in lieu of that the House expresses itself as being in favor of the education by the physician on venereal matters.

Motion put, seconded and carried.

Report of Committee on Efficiency and Standardization of Hospitals.

Dr. Robert Wilson, Jr.

Mr. President, I did not know, until very recently, that I was Chairman of this committee, and it was impossible, in a few weeks, to formulate an adequate report on such an important subject. Therefore, I have simply not attempted it. I would ask that the committee be continued, and give us the opportunity of presenting a proper report at the next session.

I will just make one or two remarks in connection with the work of this committee.

As you probably are aware, the A. M. A. has taken up the work of the standardization of hospitals. The reason for their action is the realization of the necessity of providing a year of hospital internship as preparation for the practice of medicine, and I believe that some State boards now make that requirement of their applicants

The council, however, when they took this matter up, was faced with such a chaotic condition of hospitals everywhere that, so far, nothing has been done. Hospitals vary so much, and so many hospitals are utterly inefficient from the viewpoint occupied, that nothing whatsoever that is at all definite has been issued.

The Council did issue one preliminary report a year or so ago, and in a very short time there will be another preliminary report, but that report is not based upon investigations.

At a meeting held February, 1915, a suggestion was made that the Trustees of the A. M. A. be requested to provide funds for a hospital inspector, who shall do his work along the same lines which the inspector of medical colleges has done. As far as I know, that has not been done, and the matter of the standardization of hospitals has been left up to now in the hands of the committee appointed by the council on education.

It is probable that more work, more effective work, has been done in the standardization of hospitals in the State of Pennsylvania than anywhere else. At any rate I feel assured that no State has done more than the State of Pennsylvania has, and that has been owing to the efficiency of the

State Board of Medical Examiners; and I think if the committee in this State can secure the co-operation of the Board of Medical Examiners, our task will be easier than it is now.

If the Examiners could see their way to requiring a hospital year as one of the requirements for licensure, that would compel hospitals which are at present utterly indifferent, to seek equipment and efficiency all the time.

I have wanted to secure an internship for all college graduates. One of the difficulties in the State of South Carolina, (and I do not claim that we are an exception to the rule), is the inefficient management of the hospitals in this State. In these days it is the function of a hospital not only to take care of patients, but to conduct, upon various lines, research work, and to provide, also, teaching facilities, in the way of furnishing internships and taking care of the training of nurses.

It is absolutely impossible to adequately provide for an internship that would be at all attractive to a young man just graduated, without much more equipment than the majority of hospitals possess, especially as to laboratory equipment. Every hospital should have a well-equipped laboratory, under a well-trained director. Otherwise, the young man is not going to get the training which he ought to have, and must have, to practice medicine along modern lines. Now, there are very few hospitals in South Carolina which look after this end at all. Some of them have laboratories which are not used. I do not know whether any of us are just in the position of the State of Pennsylvania. The State Board provided certain apparatus and material, and the hospitals showed that they had it, but on inspecting some hospitals it was found that while they had this equipment, it had never been unpacked They had complied literally with the requirements of the State Board, but the apparatus was not in use. I do not know whether any of our hospitals are in a similar condition or not, but I am sure the majority of our hospitals do not provide adequate laboratory training.

Last year I was in correspondence with Dr. Hines, Superintendent of the Anderson Hospital. He was anxious to put on an interne but met a difficulty, which many of you meet, in the board of trustees in the hospital.

We have got to have the proper kind of superintendents and management if our hospitals are going to be efficient.

Right there, another matter, in which the lack of efficiency is very glaringly being noticed in all the hospitals which I visited, and that is the absolute disregard (and that is something that is in your hands), by the physicians in charge of the patients, for their records. So many do not seem to care whether the records are kept or not. If the physician does not see to it that the proper record is taken, we cannot expect the hospital management to be superior to them and to have better ideas.

We should see to it, then, that the management is put in possession of the right attitude concerning the keeping of records. If the hospital is going to be efficient, according to the proper standard, we have got to have the records properly kept.

A week or so ago I had a letter from Dr. Hines, in reference to this matter, and he points out another situation in which there is a very serious lack of efficiency. That is: the requirement of a high school education of applicants for the Training School.

I suppose all of us are troubled fre-

quently and worried by the lack of education on the part of our nurses, and I am sure if Dr. Hines could put this into effect in the Anderson Hospital, all of us could put this into effect in our several hospitals.

These are matters which just occur to me as I am talking, which we can, without waiting for any formal report or recommendation, take hold of and endeavor to correct.

I hope, Mr. President, that next year we will be able to give you a much more detailed report, pointing out wherein we in South Carolina, especially, and specifically are defective. We shall make an effort to obtain reports and visit, if possible, the several hospitals in South Carolina, and bring you in a report next year which shall cover each and all of them.

Dr. Harry Wyman: This question brought up on education: That we tell our patients that they ought to get certain things at a hospital, and if they don't find it at the hospital, they will go where they can get it. For instance, in telling a patient where they cannot get a thing, and then telling them where they **can** go to get it, the deficient hospital will find it is a financial loss; and I think we should tell our patients where they can go to get those things.

The State Board of Examiners found a great deal of trouble with the nurses. We find the greatest difficulty is the lack of education, and that is really because most smaller hospitals find that they cannot get students because they have no nurse's homes, and the better grade of nurses go to the better hospitals, where they can get better homes and betters hours. Every hospital should have a nurse's home, where the girls can be given the opportunity to make something out of themselves except drudges.

Most often the first-year girls some of them spend six to eight or nine months out doing private nursing. The law requires that those girls should have two years' continuous residence and training. They do not get the lectures or training. I think marking and examining, so that is we should, as an Association, look after that feature, because, under the laws of South Carolina, they have to have two years, and we should see that they get a proper education, both before they enter the hospitals and in their own training schools, and there should be some standardization of a term of service. There ought to be at least one year's service in the diet kitchen —not continuous service. Most of the nurses are very deficient in this, and many points should be worked out and gotten together on.

Dr. Young: We are all interested in this report, and I would like to suggest that this Committee, in its report next year, in the meantime consider the advisability of adding a registered nurse to the examining board for nurses. To my mind it would be highly desirable to have a registered nurse on the nurse's examining board.

Dr. Cathcart: The point that Dr. Wyman brought up in regard to the board of examiners having charge of the nurses, and the fact that, under the State law, a woman cannot hold office, I should think it would help the State Board of Nurses' Examiners if they would have a committee from the State Nurses' Asociation to help conduct some of the examinations. I think the nurses would be better satisfied, and, if it was feasible, to have a committee appointed from the State Nurses' Association.

Dr. Harry Wyman: We do the marking and examining, so what is

against the law? Did I understand Dr. Young to say that he would like a nurse to be on the State Examining Board?

Dr. Young: My idea was that this Committee seriously consider that.

Dr. Wyman: You cannot get around the law, unless the Constitution is amended. This is the only practical way of doing it, which Dr. Cathcart has brought up. I want to see practical work done by the Board of Medical Examiners. I think under this new law we are going to see better work done.

Dr. Cathcart: I move that the State Board of Medical Examiners request the State Nurses' Association to nominate a member from their body to co-operate with the examiners.

Motion seconded.

Dr. Boozer: A year or two ago a committee from the Nurses' Association met with the committee from the Board of Medical Examiners, and the idea was that they were to act in co-operation with the Board of examiners. The question, then, before it was entered into, was made that the matter be submitted to the Attorney General, to see if the Board had the right to delegate their powers to this committee and he rules that they could not delegate this to any one; that they were elected to this office to carry this out; that there would be no objection to the nurses meeting as visitors, but they could not carry on the work of the Board.

Dr. Cathcart: It would be only acting in an advisory capacity, so to speak. They do not pass on the marks. It is only to co-operate with them in their work and stimulate them to better work in the various schools I do not see why it would be delegating their powers or duties.

The President: Any further discussion? It is moved and seconded that the State Board of Medical Examiners be requested to ask the State Nurses' Association to delegate a member to act with them in an advisory capacity.

Motion seconded and carried.

Dr. Coward: If every member of our Association would contribute a little less than 20c each, we could put this monument up to Dr. Norwood. I do not think we should let this fall, and I hope it will not fall. I have no criticism to make of the Sims Memorial Committee, but I do hope we can wind up this Norwood Memorial. I will ask if you, as individuals, will turn over 15c apiece to Dr. Hines or to me, we will be able next year to say that the monument is in place and Dr. Norwood is commemorated for all time.

The President: I have been requested by the faculty of the Medical College to extend to all visiting physicians a most cordial invitation to visit their college. Of course tomorrow we will have a luncheon there, but you are most cordially invited to come and inspect the college any time.

Dr. Gibbes: A matter occurred to my mind in listening to the Committee for the Study and Prevention of Tuberculosis, and I wish to say that I offer this Resolution:

RESOLVED, that the House of Delegates instruct the Committee on the Study and Prevention of Tuberculosis to investigate the conditions surrounding the establishment and conduct of the free tuberculosis clinic in Columbia and to consider the feasibility of establishing like institutions in various towns throughout the State.

In the Fall of 1913, in co-operation with the Associated Charities in the City of Columbia, a few young physicians volunteered their services to constitute a staff of a free tuberculosis clinic. This was really made pos-

sible through the Women's Guild of Columbia, which furnished $500. with which to start. With that we were able to obtain the services of a very efficient visiting nurse, who is in charge of this clinic, visits the patients in their homes, etc.

The general scheme of this clinic is as follows: The staff consists of six men, who each devotes two hours a week to the clinic. The schedule is so arranged that two physicians are in attendance upon the clinics one hour each day. The visiting nurse goes out through the city and where she comes in contact with the people who have tuberculosis, or with a suspicion of tuberculosis, just refers them to this clinic and has them examined.

We have through this same guild, or with contributions which have been made for this purpose, succeeded in establishing a tuberculosis camp in the vicinity of Columbia, where these cases are taken care of.

This clinic in Columbia has been the means of great civic education on tuberculosis, and has been the means of helping a number of people during the short three years of its establishment, and I believe it is a plan which can feasibly be carried out in the great majority of the towns in this State. It simply requires the co-operation of the physician and the public. I wish to offer that motion, which I stated at the outset.

Motion carried.

Dr. Harry Wyman: Dr. Shaw makes the suggestion that each delegate be instructed, when he goes back home, to incorporate in his report to the County Society and suggest that each member (and collect it, himself,) pay the secretary of the County Society the sum of 25c from each member, and forward it to the Secretary of the State Association within 60 days, with the exception of those who have already contributed.

Dr. DuBose: I suggest that this Association offer its congratulations to the faculty of the Medical College of the State of South Carolina for the raising of the College to Class A.

Motion seconded by several and carried unanimously.

The President: We have about completed the program for the House of Delegates until the afternoon session, and unless there is some suggestion to meet earlier, we will adjourn until 4:00 o'clock.

Adjournment until 4:00 P. M.

AFTERNOON SESSION.

The President: The House of Delegates will please come to order.

Dr. Cathcart: We wish to call the attention of the house of delegates to a smoker to be held in this room at 9:00 o'clock this evening, and we want to see you all. (Applause).

ELECTION OF OFFICERS.

President.

Dr. Kelley: I arise to nominate Dr. F. H. McLeod.

Seconded by Dr. Kollock.

Dr. Ferguson: It gives me pleasure to nominate Dr. C. B. Earle of Greenville.

Seconded by Doctors Smith and Mauldin.

Dr. Rollins: Dr. McLeod asked me this morning if his name was brought up, to withdraw it.

The President: There being no further nominations the House will now proceed to vote for President, and I will appoint Doctors E. W. Carpenter, R. A. Marsh and J. R. Young to act as tellers.

Ballot as follows:

Dr. C. B. Earle, 26.

Dr. F. H. McLeod, 21.

Dr. Ross: Mr. President, I move that Dr. Earle's election be made unanimous.

Motion seconded and carried.

For Vice-President:

Dr. R. A. Marsh: Mr. President, I arise to put in nomination Dr. C. L. Kibler of Columbia.

Dr. Kollock: In order to expedite the matter, I move that the nominations for the three officers be made and those three receiving the highest number of votes be elected in the order of the number of their votes.

Motion seconded.

Dr. Lynch: I nominate Dr. C. R. May, of Bennettsville.

Dr. A. J. Jervey: I nominate Dr. A. M. Braisford of Mullins.

Dr. Brailsford: Mr. President, I would like for my name to be withdrawn.

Dr. Fennell: Mr. President, I move to nominate Dr. Mobley of Rock Hill.

Dr. Bunch: I nominate Dr. R. R. Berry of Union.

The President: Dr. Mobley is a delegate and that leaves only three.

Dr. Parler: .I take pleasure in nominating a man who has attended this Association as much as any man has, Dr. H. M. Stuckey.

Dr. Gibbes: Were the nominations closed after the three nominations were made?

Dr. Burdell: I would like to move, if it is in order, that the rules be suspended and that the Secretary cast the ballot for the gentleman in the order in which they appear.

Dr. Kelley: I move that the nominations be open, so that others can enter.

The President: Those favoring the motion will please arise and stand until they are counted.

A majority vote re-opens the nominations.

Dr. Woodruff: I nominate Dr. Bearden.

Dr. Parler: I nominate Dr. H. M. Stuckey.

Dr. Parker: I move that the nominations be closed.

Motion seconded and carried.

Ballot cast as follows:

Dr. May	39
Dr. Kibler	31
Dr. Bearden	14
Dr. Stuckey	29
Dr. Berry	23

The President: I beg to announce that Doctors May, Kibler and Stuckey are elected First, Second and Third Vice-Presidents, respectively.

Secretary-Treasurer.

Dr. E. W. Carpenter: I take pleasure in nominating the present incumbent.

Dr. Burdell: I move that nominations be closed and that the Association cast the unanimous ballot for Dr. Hines.

Motion carried.

The President: I take pleasure in announcing the unanimous ballot of the Association for Dr. Hines, the present incumbent, for Secretary and Treasurer. I declare Dr. Hines elected. (Applause.)

Councilors.

Dr. Jennings: What was said at Bennettsville in regard to the Councilors?

The President: There was a motion applying to the State Board of Medical Examiners, but I do not think it applies to all the officers.

Councilor for Second District.

Dr. Houseal: I move that Dr. Matthews be nominated as Councilor for the Second District.

Upon motion, duly seconded, the rules suspended and Dr. Matthews declared elected.

Dr. Ross: Since you see fit, Mr.

President, to promote Dr. Earle, the Councilor from our District, to the Presidency, I am going to propose the name of Dr. Baxter Hayne of Spartanburg, S. C., to succeed Dr. Earle from the Fourth District.

Dr. Bunch: I nominate Dr. Berry for the Fourth District.

Upon motion nominations closed and ballot taken.

Ballot taken:

Dr. Berry 31
Dr. Hayne 13

The President: I declare Dr. Berry elected Councilor for the Fourth District.

Sixth District:

Dr. Jennings nominates Dr. W. S. Lynch, to succeed himself.

Dr. Ross: Mr. President, I move that the nominations be closed and that the Secretary be instructed to cast the unanimous ballot of the Association for Dr. Lynch, as Councilor from the Sixth District.

Motion carried, and Dr. Lynch declared elected.

Eighth District:

Dr. Burdell: I nominate Dr. W. P. Timmerman, to succeed himself.

Seconded by several.

Upon motion of Dr. Burdell, duly seconded, nominations closed and Dr. Timmerman declared elected as Councilor for the Eighth District.

MEDICAL EXAMINERS:

Second District.

Dr. Gibbes: I understood the chair to say a short time ago that a resolution was passed at a former meeting declaring no member of the State Examining Board could succeed himself more than two years in succession.

The President: That was passed at Bennettsville some 10 or 12 years ago I do not know whether that is true.

Dr. Gibbes: Would the Secretary look it up?

Dr. Burdell: I do not remember it being passed at that meeting. They have been succeeding themselves ever since. It has never been in force.

Dr. Kelley: It was passed and I think it was recinded at Anderson the following year.

Dr. Jennings: There is no reason why we should continue to do wrong. if we have been doing it all along.

Dr. Kollock: Wouldn't it be well to find out the resolution passed at the Bennettsville meeting?

The Secretary: I will do my best to find it.

Dr. Porcher: I would like to ask the ruling of the chair as to whether a man can be re-elected more than twice, to the State Board of Medical Examiners?

The President: On page 9 of the By-Laws I find, Sec. 12:

"Sec. 12. It shall nominate members for the State Board of Medical Examiners, in accordance with the law in force in the State of South Carolina. Adopted 1908."

Now, I take it from that that this being a by-law providing for this, this not being an election but simply a nomination, for State office, that an ordinary resolution would not stand against this section, and I therefore rule that the members whose terms now expire are eligible for re-election. That ruling is subject to appeal by any member of the House of Delegates.

Dr. Cathcart: Mr. President, if there is no appeal made, I move that the nominations for the Medical Examiners be proceeded with.

Motion seconded and carried.

Dr. Cathcart: I nominate Dr. Harry Wyman of Aiken.

Dr. Ross: I move that nominations be closed and that the Secretary be

instructed to cast the unanimous ballot of the Association for Dr. Wyman for the Second District.

Motion seconded and unanimously carried, and ballot cast for Dr. Wyman.

Fourth District:

Dr. Burdell: I move that Dr. Shaw be elected to succeed himself.

Seconded by Doctors Earle and Carpenter, and unanimously carried, and ballot cast for Dr. Shaw.

..... **District:**

Dr. Parker: I nominate Dr. A. M. Brailsford of Mullins, to succeed himself. Motion carried, and Secretary casts unanimous ballot for Dr. Brailsford.

The State at Large:

Dr. Ross: I nominate Dr. A. E. Boozer for the State at large.

Nomination seconded.

Upon motion, the Secretary casts unanimous ballot of the Association for Dr. Boozer, to succeed himself, from the State at large.

Place of Meeting.

Dr. J. D. Edwards: Mr. President, I would like to extend an invitation from the City of Spartanburg for you to meet with us next year. The Mayor and Chamber of Commerce, City Council, and the members of the Music Festival have instructed me to invite you to meet with us during the May Festival, and for you to bring your wives, sweethearts and daughters. The festival is about this time of year. It is a little late this time, but we generally have it about the third week in April.

Dr. Porcher: I second that, sir. I was present at the last meeting in Spartanburg, during which time it rained the entire time, and in spite of the rain we had a most delightful time.

Dr. Marsh: Dr. Edwards asked us to be present at that May festival. As a rule the people who attend that cannot get accommodations without the doctors being present, and we might be inconvienced considerably.

Dr. Edwards: We have a $250,000. hotel in course of construction, and it will take care of us all. We are going to build another hotel, also, and will have another $100,000. hotel by the time you come.

Upon motion of Dr. Kollock nominations closed and the Spartanburg invitation accepted.

New Business.

Dr. Kollock: I have been asked, Mr. President, to bring up the matter of a garnishee law for your consideration:

I will say in explanation of that, that in case a debt is owed and the man is on a salary, that his salary may be attached by law for the payment of this debt. That is, a certain amount of it, each month. The merchants of Charleston I think thought of having a law of this kind passed, I do not know what the opposition was.

I do not know very much about the law, except it works very well in Georgia and other States, and we certainly know how hard it is to collect some of our debts from people who can pay. Now, I do not press the matter of taking the entire salary from any man, say a man who made a small amount, but we could have a law, or suggest a law, which would pertain to salaries above a certain amount. For instance, above $30. or $40. or whatever we desire to make it. It would be well, I think, to consider a law of that kind, whether it is passed or not.

Dr. Ferguson: It is an excellent law. It has been in force in Virginia

for many years, and I hope it will be passed.

The President: So many as wish this referred to the Committee on Public Policy and legislation, signify it by saying "aye." Opposed, "no."

Motion carried.

Dr. Robert Wilson: I have a proposition to make and a resolution to offer. Several years ago when the Medical College was turned over by the Faculties and Trustees and made a State institution, which, in fact, it had been in name only, it became your property as well as ours, and now that we have a college which I feel that the profession of the State has no cause to be ashamed to own or support, in order to establish a closer relationship between the college and the profession at large, I want to propose that a committee be appointed as one of the standing committees of this Association, termed "The Committee on Medical Association," which committee shall keep in close touch with the activities of the College and serve in an advisory capacity to the officers of that institution. It will keep the Association in touch with the College

I move, Mr. President, that a committee of five be appointed.

Seconded by Dr. Durham and unanimously carried.

The President: Anything further to come before this House?

At this point the usual vote of thanks was taken by a rising vote.

TREASURER'S REPORT

RECEIPTS:

Balance on Hand Jan. 1st, 1915			$ 417.96
1915			
Jan.	7	Spartanburg Co. Md. So.	2.00
	13	Laurens Co. Med. So.	2.00
Mch.	11	Newberry Co. Med. So.	10.00
	13	Lexington Co. Med. So.	18.00
	17	Greenwood Co. Med. So.	44.00
	17	Pickens Co. Med. So...	28.00
	28	Orangeburg Co. Med. Society	16.00
	31	Lancaster Co. Med. So.	12.00
	31	Laurens Co. Med. So.	38.00
Apr.	3	Pickens Co. Med. So...	4.00
	3	Clarendon Co. Med. So.	12.00
	3	Charleston Co. Med. So.	132.00
	7	Newberry Co. Med. So.	6.00
	7	York Co. Med. So.....	48.00
	8	Calhoun Co. Med. So.	14.00
	8	Edgefield Co. Med. So.	14.00
	9	Williamsburg Co. Med. Society	12.00
	10	Kershaw Co. Med. So.	16.00
	10	Pickens Co. Med. So...	6.00
	12	Williamsburg Co. Med. Society	2.00
	13	Union Co. Med. So.....	22.00
	13	Lee Co. Med. So.	16.00
	15	Cherokee Co. Med. So.	14.00
	16	Wiliamsburg Co. Med. Society	2.00
	16	Georgetown Co. Med. Society	6.00
	16	Columbia Med. So.....	148.00
	16	Saluda Co. Med. So...	18.00
	16	Pickens Co. Med. So...	2.00
	17	Orangeburg Co. Med. So.	26.00
	17	Spartanburg Co. Med. Society	86.00
	17	Marlboro Co. Med. So.	22.00
	17	Anderson Co. Med. So.	50.00
	19	Newberry Co. Med. So.	20.00
	20	Beaufort Co. Med. So.	12.00
	20	Florence Co. Med. So.	18.00
	21	Darlington Co. Med. So.	30.00
	23	Barnwell Co. Med. So.	16.00
	23	Aiken Co. Med. So. ..	24.00
	23	Chester Co. Med. So...	40.00
	23	Pickens Co. Med. So...	2.00
	23	Greenville Co. Med. So.	96.00
	23	Greenville Co. Med. So.	2.00
	23	Sumter Co. Med. So...	42.00
	23	Bamberg Co. Med. So.	16.00
	23	Laurens Co. Med. So...	4.00
	23	Aiken Co. Med. So....	2.00
	23	Union Co. Med. So....	2.00
	23	Dorchester Co. Med So.	44.00
	23	Chesterfield Co. Med. So.	12.00
May	1	Barnwell-Hampton Co. Med. So.	2.00
	5	Saluda Co. Med. So...	2.00
	8	Union Co. Med. So.....	2.00
	15	Spartanburg Co. Med. So.	2.00
	15	Chesterfield Co. Med. So.	2.00
	17	Saluda Co. Med. So...	2.00
	19	Chester Co. Med. So...	2.00
June	10	Dillon Co. Med. So....	12.00
	19	Laurens Co. Med. So..	2.00
	17	Lexington Co. Med. So.	6.00
	18	Orangeburg Co. Med. So.	10.00
Aug.	19	Spartanburg Co. Med. So.	2.00
	19	Newberry Co. Med. So.	4.00
	30	Abbeville Co. Med. So.	16.00
Sept.	9	Spartanburg Co. Med. So.	2.00
	23	Oconee Co. Med. So...	2.00
	23	York Co. Med. So.....	2.00
	23	Williamsburg Co. Med.	

		So.	6.00
Oct.	11	Florence Co. Med. So..	4.00
	11	Lexington Co. Med. So.	2.00
	14	Anderson Co. Med. So.	6.00
	23	Barnwell Co. Med. So.	2.00
Nov.	26	Marlboro Co. Med. So.	4.00
Dec.	2	Anderson Co. Med. So.	2.00
	4	Bamberg Co. Med. So.	4.00
	11	Bamberg Co. Med. So.	2.00
	14	Colleton Co. Med. So...	14.00
	31	Credit taken for check favor C. B. Nelson which has never been presented to bank for payment (Dated Oct. 1st, 1914)	7.00
		Total	$1,774.96

DISBURSEMENTS.

1915.			
Jan.	1	E. A. Hines, Editor, Sec. & Treas'. salary, Stenog. & Stamps ....$	139.51
Feb.	1	E. A. Hines, Editor, Secretary & Treasurer's salary, Stenographer & Stamps	147.51
	1	M. G. Elliott, Councilor trip to Columbia as-	4.50
	17	C. W. Kollock, Exp. Member of C. P. P. of Legislation	11.25
Mch.	1	E. A. Hines, Editor, Secretary & Treasurer's salary, Stenographer & Stamps	139.51
Apr.	5	E. A. Hines, Editor, Secretary & Treasurer's salary, Stenographer & Stamps	139.51
	19	Dr. Edythe Welbourne, Secty. Columbia Medical Society to correct error in dues	2.00
	22	Floral tribute to Dr. Swygart	10.47
May	6	Oulla Printing Co., printing	15.00
	10	E. A. Hines, Salary Secretary & Treasurer, Expenses, etc.	69.43
	20	Walker, Evans & Cogswell, Binding Transactions	20.00
	31	Return of Loan to Journal	600.00
June	10	Miss Ida Lamb, Reporting Greenwood meeting, etc.	126.15
	10	E. A. Hines, Salary, Secretary & Treasurer, expenses, etc.	39.51
July	5	McMurray Drug Co. Stationery for President..	17.50
Aug.	2	E. A. Hines, Salary, Secretary & Treasurer, expenses, etc. For June and July	79.02
	5	Oulla Ptg. Co., Printing	11.25
Sept.	14	E. A. Hines, Salary, Secretary & Treasurer, expenses, etc	39.51
	14	W. P. Timmerman, Expenses as Councilor...	10.90
Oct.	23	E. A. Hines, Salary, Secretary & Treasuerer expenses, etc.	39.51
Nov.	6	E. A. Hines, Salary, Secretary & Treasurer, expenses, etc.	39.51
Dec.	11	E. A. Hines, Salary, Secretary & Treasurer, expenses, etc.	39.51
	31	E. A. Hines, One-half penses of Trip to A. M. A., San Francisco	150.00
		Total	$1,891.06
		Total Disbursements ..	$1,891.06
		Total Receipts	1,774.96
		Overdraft at the Seneca Bank .....$	116.10

I hereby certify that the above is a correct statement of Receipts (including balance on hand Jan. 1st 1915) and Disbursements as shown by the books of the Association, for the year ending December 31st, 1915.

C. C. DARGAN.
Public Accountant.

Anderson, S. C.
January 12th, 1916.

Adjournment.

SOCIETY REPORTS

To the President, Members, and House of Delegates, South Carolina Medical Association:

Gentlemen:

I beg to submit the following report on the work of the Committee on the Norwood Memorial. The matter of the Norwood Memorial has been brought to the attention of many of the County Societies by personal talks by members of the committee. Announcements of the aims and hopes of the Association in the matter of the

Norwood Memorial has also been made through the Journal.

The Committee has on hand, at present $45.75, of which $30. was contributed by members of the Committee. Dr. F. L. Parker contributed $1.00; the following amounts by County Societies:

Pickens County	$4.25
Laurens County	3.50
Edgefield County	4.50
Spartanburg County	2.50
Abbeville County	27.60

Respectfully submitted,
F. A. Coward,
Chm'n. of Committee.

SPARTANBURG COUNTY.

The Spartanburg County Medical Society held is regular monthly meeting on July 28th, with a good attendance and Drs. Thompson in the chair.

Dr. Kirkpatrick showed a small boy with compound fracture of femur in which union had taken place without shortening. The essayists were obsent, so no papers were read.

Dr. Black as chairman of The Hospital Committee read a report which was acceptable to the Society and it was adopted with the request that the five lawymen, proposed as directors to devise a plan for building, equipping and maintaining a general hospital for Spartanburg, act at once.

Dr. Oscar Wilson who has recently moved to Spartanburg was elected a member of the Society.

Notice of the death of Dr. H. C. Tate of Pacolet was given and a committee appointed to draft suitable resolutions.

The members of the Society who were fortunate enough to attend the meeting of the Greenville County held at Chick Springs, report a fine time.

L. Rosa H. Gantt,
Secretary.

The Principles of Nutrition

are well defined. Milk is one of the most necessary food materials of the body. When pure, it is a wholesome, digestible and nutritious food for all ages. Ordinarily, foods have but one function—to build tissue or yield energy.

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FIFTH DISTRICT SOCIETY.

The semi-annual meeting of The Fifth District Medical Society was held in York on July 26. Owing to a number of bridges having been washed away by the recent floods a number of members were unable to attend. Several of these doctors were to read papers and they were missed very much. Despite these adverse circumstances the attendance was large. The meeting was called to order in the Court House auditorium at Eleven O'clock by the president, Dr. E. W. Pressly. Hon. John R. Hart welcomed the visitors to York in an appropriate speech which was responded to, in behalf of the Society by Dr. J. H. Saye of Sharon.

The program which follows was then taken up.

1. Indications for Removal of the Tonsils. Dr. S. B. Koser, Chester.

2. Gonorrheal Epididymitis: Its treatment. Dr. C. A. Mobley, Rock Hill.

3. Early Recognition and Treatment of Perforation of the Intestines in Typhoid Fever. Dr. S. E. Harmon, Columbia.

4. The X-Ray in the Diagnosis of Pericolic Membranes. Dr. G. A. Hennies, Chester.

5. Cause, Diagnosis and Treatment of Hyperthyroidism. Dr. E. W. Pressly, Clover.

6. A Rare Case of Osseous Tumor on the Womb with Hysterectomy. Dr. T. Ferguson, Gaffney.

All of the papers were very interesting and were discussed freely.

All the old officers were elected to serve another year.

President, Dr. E. W. Pressly, Clover.

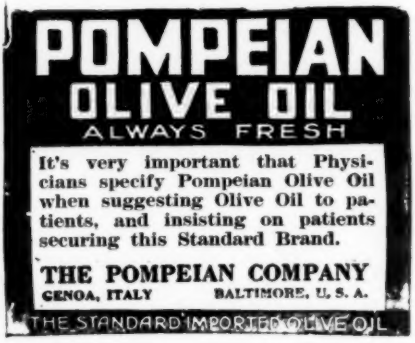
First Vice President, Dr. R. T. Ferguson, Gaffney.

Second Vice President, Dr. Sam'l. indsay, Winnsboro.

Secretary and Treasurer, Dr. G. A. Hennies, Chester.

Rock Hill was selected as the next place of meeting which will be held in November. The session came to a close at two o'clock, following which the Society repaired to the Shandon Hotel, where it was the guest of the York doctors at a most excellent dinner.

G. A. Hennies, Sect.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The Journal OF THE South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.

Annual Subscription, $2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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J. LaBRUCE WARD, M. D., Columbia, S. C.

EYE, EAR, NOSE, AND THROAT.
E. W. CARPENTER, M. D., Greenville, S. C.

EDITORIAL

Fall and Winter Activities of the Medical Society.

Just at this season the officers of the County Medical Societies should be thinking seriously of stimulating their members to renewed interest in the organization. It is absolutely necessary for the President and Secretary to be always alert.

We wish to suggest that special invitations be sent to the officers of the State Medical Association to be present at the meetings, at least once a year.

A special invitation to the State official is always greatly appreciated and as general rule such an official will make an extra effort to accept.

The President, Dr. C. B. Earle, of Greenville has already visited a considerable number of the societies and before his term of office closes will no doubt accept invitations to visit many others.

The Chairman of Council, Dr. S. C. Baker, of Sumter, will no doubt make a personal visit to some of the constituent societies. The Councillor of each District should have every opportunity to visit officially in his district. The name of the Councillors are published each month in the Journal.

The Secretary-Editor of the State Association is always glad to lend a hand by a personal visit wherever possible.

It is very helpful to invite an occasional guest to be present and read a paper on some pertinent topic.

Then the social feature should be stressed on these occasions. Start the enthusiasm and get-together spirit by a dinner.

Last but not least, let the Journal have reports of these meetings each month for publication. Such reports prove to be a decided stimulus to society work all over the state.

Governor Manning and the Medical Profession.

The re-election of Governor Manning assures the Medical profession of South Carolina a continued, broad and constructive policy with reference to the interests which have especially concerned its members for the past few years.

The South Carolina Medical Association definitely committed itself to a number of propositions along Public Health lines, which if carried out would materially raise our state in the estimation of the whole country.

We feel assured now that Governor Manning will continue his support to the State Hospital for the Insane, to the State Board of Health, and to the final enactment of a law providing for the medical inspection of schools and colleges, and last but not least, we believe that the Governor will foster, to the extent of his power, the Medical College of the State of South Carolina.

Health Officers Organized.

On Monday, August 21st, at the Isle of Palms, at the call of the State Board of Health, the Health officials of about forty cities and towns of South Carolina formed an organization which will meet annually, probably with the State Board of Health.

The first meeting was an unqualified success. The representation was large and every one appeared to be deeply interested in the Health and Sanitation of their respective communities. Dr. Charles E. Low of Spartanburg, the all time Health Officer of that city, was elected president. The subject of Infantile Paralysis being the most acute problem before the Health Departments of every community, was discussed very freely. The Sanitation of the small town came in for a full share of consideration. It was evident that Sanitation of the smaller towns and rural communities weighed heavily upon the minds of all present. It was also clear that great advancement was being made along this line in South Carolina, especially has aggresive work been done in Greenville county, Darlington, Sumter, and elsewhere.

The meeting, by special resolution, commended the excellent pioneer work, which has been done in these several communities, for a number of years and is now bearing fruit.

The Journal wishes to co-operate in every way possible with the aims and purposes of this organization.

Dr. Taylor Honored.

At the recent meeting of the Association of Surgeons of the Southern Railway, Dr. J. H. Taylor was awarded a prize by the International Journal of Surgery for one of the best papers read. In addition to this honor Dr. Taylor was elected Vice-President.

The Journal congratulates Dr. Taylor, who is one of our most active and enthusiastic members.

Report of Vital Statistics.

It is highly gratifying that the comparative death rate in the past year shows a marked decrease. We wish to commend the work of the Bureau and its great value to the State Department of Health and to the Public.

The information now available is of the greatest importance and the profession should continue to promote its efficiency. The report follows for the first half of the year.

Total Number of Births and Deaths For South Carolina, From January 1, 1916, to June 30, 1916.

Counties	Deaths	Rate	Births	Rate	S. Bths.
Abbeville	211	11.8	456	25.6	38
Aiken	236	10.8	486	22.2	21
Anderson	437	11.2	1038	26.5	58
Bamberg	107	11.1	269	27.8	17
Barnwell	132	7.7	304	17.8	22
Beaufort	248	15.2	285	23.4	43
Berkley	162	13.8	277	23.6	28
Calhoun	123	12.1	293	28.5	34
Charleston	1010	22.7	936	21.	135
Cherokee	159	10.9	465	31.8	27
Chester	226	15.1	391	26.1	25
Chesterfield	186	12.4	511	34.1	19
Clarendon	258	14.9	489	28.2	44
Colleton	176	9.6	352	19.2	29
Darlington	271	14.1	584	28.4	45
Dillon	130	11.9	233	24.4	22
Dorchester	106	11.2	214	22.6	10
Edgefield	131	8.7	351	23.4	18
Fairfield	142	9.6	368	25.	16
Florence	347	17.3	802	39.9	72
Georgetown	187	16.8	216	19.4	32
Greenville	507	13.	1166	30.	72
Greenwood	249	13.1	457	24.1	26
Hampton	123	15.2	271	23.4	16
Horry	178	12.1	514	35.1	22
Jasper	57	15.2	102	23.4	5
Kershaw	150	14.1	332	28.4	31
Lancaster	227	16.1	375	26.6	27
Laurens	247	11.1	580	26.2	40
Lee	200	12.1	351	28.5	26
Lexington	155	14.1	413	28.4	36
Marion	156	11.9	356	24.4	28
Marlboro	255	15.2	552	33.	39
Newberry	211	11.2	411	22.	23
Oconee	177	11.9	443	29.8	20
Orangeburg	419	12.1	1004	28.5	87
Pickens	175	11.9	457	31.	30
Richland	696	22.8	715	23.3	75
Saluda	99	8.9	220	19.8	7
Spartanburg	563	11.0	1286	27.2	68
Sumter	358	14.1	640	28.4	57
Union	212	13.	383	23.4	27
Williamsburg	234	11.3	604	29.2	41
York	340	13.2	661	25.7	34
Total	10973		21615		1592

1915 Deaths—12,633	15.7 per M.	
1916 Deaths—10,973	13.5 per M.	
Decrease 1,660		
1915 Births—21,892	27.2 per M.	
1916 Births—21,615	26.5 per M.	
Decrease 277		

Comparative Statement of Deaths for the Following Cities, From January 1, to June 30, 1915; From January 1, to June 30, 1916.

Cities	1915	1916
Abbeville	45	45
Aiken	45	35
Anderson	168	127
Camden	46	35
Charleston	866	736
Cheraw	26	27
Chester	73	56
Clinton	41	29
Columbia	751	571
Darlington	39	34
Florence	119	93
Gaffney	57	50
Georgetown	87	65
Greenville	202	173
Greenwood	63	56
Laurens	50	46
Newberry	46	49
Orangeburg	53	45
Rock Hill	82	76
Spartanburg	186	164
Sumter	114	105
Union	62	56
Total	3221	2673

Total Population—252,343.
Decrease—548.

ORIGINAL ARTICLES

THE DEVELOPMENT OF THE SCIENCE OF DIAGNOSIS.

By Lewellys F. Barker, M. D.,
Professor of Clinical Medicine,
Johns Hopkins University.

WITH new times come new ideas. In no department of knowledge is this more true than in the science of diagnosis. Let any physician now in middle life look back to the diagnostic aims and methods of twenty-five years ago and compare them with those he is familiar with today. He will see that the whole aspect of the science has changed, the emphasis now differs **toto caelo** from that which prevailed then; and the practical-technical methods employed have undergone a marvelous transformation and extension. A physician that went to sleep in 1890 and woke up yesterday would find himself a disoriented Rip Van Winkle in diagnosis, with utterly antiquated ideas and information. The diagnostician that sleeps longer than eight or nine hours at a stretch in these days runs a risk!

Read by invitation before the South Carolina Medical Association, Charleston, S. C., April 21, 1916).

Factors that Have Contributed to Advances in Diagnosis.

The great advances that have been and are now being made in diagnosis depend upon a number of factors. Among the more important of these factors, as I see them, are:

(1) The rapid extension of the natural sciences of physics, chemistry and biology and of the preclinical medical sciences of anatomy, physiology and pathology—every medical student now being required to familiarize himself with the main facts and the methods of investigation of all

these sciences before undertaking clinical studies;

(2) The rise of the medical and surgical specialties, through which the practical-technical methods of accumulating data regarding the exact structural and functional conditions that obtain in the human body at a given time have been greatly elaborated;

(3) The increasing tendency of diagnosticians to work together in groups, either in private organizations or in public clinics, a kind of co-operation that permits of a thorough investigation of the patient as a whole and of each special domain of his body not only by men that have worked intensively in circumscribed fields but also by men that by nature and training are particularly fitted to make a general survey of the sick man and his environment with utilization of all the facts that may be accumulated regarding the size, position and shape of the bodily organs, regarding the functional activities of these organs, and regarding the adaptation of the particular human being under consideration to the social situation in which he finds himself;

(4) The rapid growth of facilities for clinical research, especially the establishment of liberally-endowed research-institutes, in which men that have been adequately trained may undertake original investigations bearing upon clinical diagnosis, devoting all or nearly all of their time and energies systematically to the making of new applications to diagnosis of the facts and methods of the fundamental natural sciences and of the simpler (or preclinical) medical sciences, unimpeded, at least for a time, by the necessity of making a livelihood from private practice and encouraged by having placed at their disposal all the technical and bibliographic aids that they can advantageously make use of;

(5) The provisions that now exist for making new diagnostic knowledge quickly available to the general and the special practitioner through the multiplication of medical journals, text-books, and systems of medicine, through conferences at local, state, interstate, national and international medical societies, and through especially-organized postgraduate continuation-courses in our larger medical centres; and

(6) The gradual education of the public to an understanding of the value, especially in the more obscure cases, of more complete diagnostic studies than were formerly possible, and to a willingness to defray the unavoidable expense of such studies, whether made at home or in a hospital.

The Rise of Pathological Physiology (or Functional Pathology) and of the Experimental Method.

Perhaps the most striking feature of the science of diagnosis at the present time is the shift of emphasis from the structural to the functional side. It is not that pathological-anatomical considerations are any less significant than they formerly were, but pathological-physiological considerations have grown in our time to a wholly unprecendented importance. In the study of our patients we are no longer content with accumulating data that will help us to prophesy what anatomical changes will be found in the body after death, but we attempt to determine, in addition, the deviations from normal function that they and their several organs present, and we try to understand the origin and essence of these deviations from the normal—to know exactly what is going on in the body and mind of the

patient—that we may intervene with a rational therapy.

Functional pathology, it must be admitted, is as yet not an evenly-developed science. Certain parts only of inner medicine have been cultivated at all thoroughly by means of the new instrument; many parts of the field remain, still, wholly untilled. But the many applications of physics, of chemistry, of biology, and of psychology that have already been made in the science of diagnosis make it seem likely that in the very near future a still larger use will be made of these methods and principles in solving diagnostic problems. For in the study of disease-processes we dare not be content with approach from any one side; we should use the anatomical path, the physical path, the chemical path, the psychological path, indeed any avenue that will lead us to our goal.

For a time etiological studies overshadowed all others in making contributions to the science of diagnosis. The great advances that accrued to clinical diagnosis as a result of studies of bacterial and protozoan causes of diseases are fresh in the minds of the present generation of clinical workers. Etiological researches are still being ardently pursued, and with right, for they are capable of indefinite extension and they will ever lead to the acquisition of new knowledge that will be helpful in diagnosis.

To understand a pathological process, however, it is necessary to know something more than its cause, for the "nature" or "essence" of a disease-process depends not only upon the cause but also upon the organism upon which the cause acts. This explains, I think, the lively interest now manifested in experimental pathology and especially in experimental pathological-physiology, since by experiment we can study under controlled conditions the reactions of an organism (or of parts of an organism) to a given causal agent. Thus, it is from experimental medicine that we may hope sooner or later to get a clearer understanding of pathogenesis. We need only glance at the progress that has already been made in the understanding of disease-processes by a study of disturbances of the regulatory mechanisms of the body (e.g.—nervous and chemical correlations), or by investigations of immunological problems, to realize the value of the experimental methods for the science of diagnosis.

The Profusion of Practical-Technical Methods for Accumulating Data.

The modern science of diagnosis has at its disposal an exuberantly plentiful supply of practical-technical methods. Much of my spare time during the past three years has been spent in writing a text-book on clinical diagnosis. At times I have felt almost overwhelmed by the extent of the field to be covered and by the wealth of detail involved. Even when one selects carefully, separates the relatively important from the less important, chooses whenever possible the one best way, avoids all unnecessary ballast, and tries to compress the material within set limits, the irreducible minimum appals.

Physical diagnosis alone has grown to large circumference. My colleague, Professor Thayer, emphasized its growth and importance at a meeting of your Association a year or two ago. The methods of the clinical laboratory, too, have expanded with astonishing rapidity; studies of the blood, of the urine, of the sputum, of the gastric contents, of the duodenal contents, of the feces, and of fluids obtained by exploratory puncture involve a wide knowledge of applied physical, chem-

ical, and microscopical technique.

Through the researches of specialists a whole series of instruments of precision have been made available for use by the general practitioner; even those that are too difficult to be applied except by special workers, the general practitioner must know about in order that he may, on occasion, call the specialist to his aid. Thus the technique of rontgenography and rontgenoscopy has been developed to a marvelous proficiency and has revolutionized our diagnostic methodology in several domains. Especially useful at first to the surgeon in the exact diagnosis of lesions of the bones and joints, rontgenology is now even more important to the internist, who daily makes use of rontgenograms of the stomach and intestines, of the lungs, of the paranasal sinuses, of the skull, of the cardiovascular stripe, of the teeth, and of the kidneys and ureters. The older instruments for laryngoscopy and ophthalmoscopy have been replaced by self-illuminating electrical apparatus of great convenience. Where the extension of inspection is to stop, who will guess? What besides rhinoscopy, pharyngoscopy, otoscopy, bronchoscopy, esophagoscopy, gastroscopy, proctoscopy, sigmoidoscopy, cystoscopy, and laparoscopy (to say nothing of rontgenscopy), may yet be devised, it would be rash to prophesy. Graphic methods of registration have been taken over from the physiological laboratories into clinical work, and our clinical records now contain arteriograms, phlebograms, cardiograms, electro-cardiagrams, electro-phonograms, pneumograms, and absolute sphygmograms. The applications of bacteriological and immunological methods to clinical diagnosis make up no small part of our work, for we have learned how to use and to interpret throat cultures, sputum cultures, blood cultures, stained smears, animal innoculations and virulence tests, and we would not willingly do without the information yielded by tuberculin tests, by the Widal reaction, by the Wassermann reaction, and by the Schick test. For studying nervous and mental states, neurologists and psychiatrists have provided us with a host of methods, some easy, others difficult to apply. And last of all those that work on metabolism and on the glands of internal secretion have shown us how our clinical technique must be extended if we are to make the diagnostic studies of gout, of diabetes, of obesity, of emaciation, and of endocrinopathic states that are now indispensable for satisfactory work. I shall make no attempt even to catalogue the thousand and one methods that are urged upon us. It will be enough to express gratitude—and awe!

The Use and Abuse of Specialism.

Though incalculable good has come from the intensive cultivation of the special branches of medicine and surgery, their development has also led to certain abuses. Since to become expert in a specialty demands a concentration of attention upon it that necessarily restricts activity in and acquaintance with other specialties and the general subject of diagnosis, there is sometimes danger that a patient, who of his own initiative consults a specialist and who has some lesion of an organ belonging to the domain of the specialist, may pay a great deal of attention to a minor and relatively unimportant ailment to the neglect of some important disorder in another part of the body, or as frequently happens, to the neglect of some failure of adaptation to a situation that is in reality mainly responsible for his ill-health. The wise and better-trained specialists, it is true,

do their best to avoid such mistakes, calling to their aid other specialists or a general diagnostician in cases that seem to warrant it, but that mistakes of the sort mentioned are not uncommon, everyone will admit. A one-sided specialistic survey would occur far less often if patients would permit their family physicians to advise them when to consult a specialist and whom. Unfortunately many people still have an idea that general practitioners and specialists are mutually jealous of one another, and think and say that they must "take the bull by the horns" and select a specialist for themselves without consultation with the family physician. There was a time, I suppose, when there were mutual misunderstandings between general practitioners and specialists. To a certain extent they still exist. Undoubtedly, today, the general practitioner that sees to it that his patients are referred to the proper man for specialistic study and treatment in case of need promotes his own interests also, as does the specialist that encourages a patient to follow his family physician's advice regarding the consultation of specialists and sees to it that the patient returns to his family doctor for supervision and after care at the end of a specialistic survey.

Laymen should understand, first, that a consultation with a specialist implies a provisional diagnosis that they themselves are scarcely warranted in making, and second, that even if specialistic care is needed, they, as laymen, are less fitted to judge of the particular specialists they should consult that are their physicians, who know the medical situation of the town, state and country.

The Danger of Naivety in Diagnosis.

That men are unequally endowed by nature everyone that observes closely will of course admit, and two men, with equal environmental opportunities, will differ in diagnostic ability according to their natural gifts. But the time is long since past when much emphasis is laid upon "diagnosis by intuition" or "diagnosis **von Gottesgnaden.**"

The better education a given man has in the principles of medical science and the greater his training in practical-technical methods, the more likely will he be to make correct diagnoses. There is a danger, however, to which I think it worth while to draw especial attention. I shall designate it the "danger of naivety" in diagnosis. It may be due to faulty education, to insufficient experience or to native lack of judgement.

One sees this naivety manifested sometimes by a fourth year student or by a hospital interne at the beginning of his experience. Receiving a systematic education in the details of the practical-technical methods of clinical examination, learning how to inspect, to percuss, to auscultate, to make a bacterial culture or a Wassermann test, to measure systolic and diastolic blood pressure, to pass a stomach tube, to do a phenolphthalein test, to make a differential count of the white blood corpuscles, to study rontegnograms, to examine eyegrounds, to test reflexes, to do lumbar punctures, to titrate glucose, and the like, more, he is all too prone to think that when he has subjected his patient to all these procedures and recorded the results he has solved his diagnostic problem. As a matter of fact, this laborious accumulation of data is only one part of the work, and a part requiring the least experience. For it is very easy to "lose sight of the wood on account of the trees." I am by no means objecting to such a thorough working up of the symptoms and physical signs. The veteran, it is true, will know when he

may omit much of the general routine of a complete clinical examination without disadvantage to the patient, but the beginner will do well to make fewer omissions than the veteran. The important point, however, is to realize that the mere accumulation of signs, symptoms, and the results of laboratory tests and the recording of them in their original isolation, is only the first step toward the making of a diagnosis. It is necessary to go on from this point to the correlation of the data into a connected body of phenomena, to epitomize them in the form of brief symbols, and finally to interpret them as a whole—in other words to compose a clinical picture in which the interest will centre in the most important facts with all the other facts duly subordinated. For unless this is done, the would-be-diagnostician will exhibit a naivety comparable to that of the imagist poet or the futurist artist for whom mere emotion of sound or mere emotion of color seem to be sufficient—in other words for whom mere response to impression without attempt at correlation or interpretation suffices!

The experienced clinician of good native ability has gradually acquired the power of selecting from the mass of data accumulated by clinical analysis in a given case the essential features of a higher unity, synthesizing them to a syndrome or a "clinical picture," in much the same way that a landscape-painter on viewing nature chooses and combines, for his purpose, the elements that are necessary for his work of art. Nearly everyone can, by prolonged study under instruction, learn the technique of landscape painting, but not everyone can become a Corot or a Turner. Similarly, it is not so difficult for any industrious student to learn the technic of examining patients, but only a few ever learn to construct clinical pictures as could Sydenham or Graves. And as the clinical sciences progress, the clinical pictures that masters of the subject are able to construct grow ever richer in content—physiological, psychological anatomical, etiological, and pathological.

The Cost of Modern Diagnosis.

The amount of work that has to be done in order that a thorough diagnostic study may be made in an obscure case is so large, involving as it often does the combined efforts of a general diagnostician and a group of specialists with extension of the observations over a certain period of time, that the cost of such work has come to be matter for serious consideration. Though a great many of the patients that present themselves to practicing physicians for diagnosis and treatment suffer from conditions that are easily and speedily recognizable, requiring no elaborate or prolonged study, there occur in the practice of everyone that sees patients, cases in which a complete diagnosis cannot be made without the more elaborate processes of investigation by a group of workers that I have referred to above. The question then is, How can we most satisfactorily arrange for a thorough diagnostic study of patients suffering from obscure diseases, without entailing financial hardships upon them?

In our larger cities, at least two classes are now fairly well provided for; I mean the very poor and the relatively rich. A patient that has no money can get a very thorough study in the public ward of a modern hospital without cost to himself. A rich patient can be sent to a general diagnostician with the request that he captain a diagnostic investigation of the case with the privilege of calling to his aid whatever specialists he may think helpful in throwing light upon

it, and irrespective of whatever the total cost of the study is $50.00, or $500, or even more. But the difficulty at present is in securing a proper study of obscure disease in people who are neither very poor nor rich, that is in patients with small or moderate incomes, and in general practice, such patients are in the majority.

I believe that a vast deal could be done by proper organization and group-cooperation to provide diagnostic clinics in which thorough studies could be made at a cost far less than that now unavoidable. In some way, or another, provision for thorough studies at a cost that will not be a hardship to patients must be made. If it cannot be done in any other way, it will have to come through Governmental agencies, through thoroughly organized municipal, county and state care. But in this country, our tendency has been, and is, to try to work out our problems as far as possible through private enterprise, even though such enterprise may in time, become subject to governmental regulation.

The medical profession is I believe, becoming cognizant of the problem it has to face. Indeed, in several places, intelligent efforts are being made to solve the problem.

Our large hospitals and sanitoria all over this country are gradually developing diagnostic clinics in which general diagnosticians and specialists cooperate in groups to make diagnostic studies and laudable efforts are made to see to it that the cost is not made prohibitive or a real hardship to patients. The Mayo Clinic at Rochester, Minn., is a notable example of an institution in which an elaborate diagnostic study can be obtained at a moderate cost. In many towns and cities groups of men in private practice are forming combinations for a similar purpose. That such attempts are efforts in a right direction I feel sure. In California and in New England, special "Pay Clinics" for people who have very small means but who desire to pay something are being organized. Dr. Richard Cabot, a strong friend of all true social reforms, is deeply interested in this movement and has described such a "Pay Clinic" in the last number of the "American Magazine." Any family physician may refer a patient (of small means) to the "Pay Clinic" for diagnostic study. The patient pays $5.00, and the clinic makes whatever studies are necessary (X-Rays; special laboratory tests; examinations by specialists, etc.) in order that a diagnosis may be sent back to the family physician. Such clinic is of course in part elemosynary, as $5.00 would by no means defray the cost unless there were an endowed institution, and a generous group of physicians behind it. It is probable that a "Pay Clinic" in which the charge was made $25.00 for the diagnostic study could, under a good organizer and with good will of a medical group be made efficient and at the same time self-supporting. Many difficulties would undoubtedly arise and would have to be surmounted. There would be prejudices to overcome, on the part of patients and on the part of practicing physicians. There would be danger of abuses that should be carefully avoided. It would be especially necessary to see to it that such pay clinics were not permitted to engage in any unfair competition with the general practicing profession. I dare say that many experiments of different kinds will be necessary, and many mistakes will be made, before the best ways of meeting the varying situations in city, town and country are worked out.

A RATIONAL TREATMENT OF CARDIO-NEPHRITIC CASES.

By N. B. Heyward, M. D., Columbia, S. C.

THERE is probably no class of case that is met with as commonly as the cardio-nephritic case. Nature, fortunately, endowed us with a great many more kidney cells than were actually necessary for our daily use in ridding our bodies of the refuse matter and poisons which are the result of the never ending activities of our body cells.

But the steady work of the highly specialized kidney cells results in the wearing out or death of these cells, and fortunately nature provided us with very many more than were actually needed so the ordinary healthy man has a sufficient number to do his work for his life time. On the kidney also falls the duty of excreting the poisons circulating in the blood as a result of disease and during this excretion numbers of cells are killed. So through childhood and adult life each infection claims its toll of kidney cells. Diphtheria and scarlet fever are the two worst infections of childhood and especially as far as the kidneys are concerned.

Pneumonia, tonsilitis, syphilis, the various intoxications as lead poisoning, alcohol, the much discussed pyorrhea alveolaris, etc., each in turn claims its share of kidney cells. If a person has been subjected to many infections or has been indiscreet in his habits, sooner or later he comes to the time when he has barely enough kidney cells to daily rid his body of the poisons.

So the cardio-nephritic case is usually a person of middle age or older who presents himself or herself to the doctor with evidences of cardiac weakness and other circulatory disturbances, such as high pressure, associated with signs of failure of renal function or urinary indications of renal disease. When this combination of symptoms is found and the greater part of the responsibility cannot be assigned to either the cardio-vascular system or to the kidneys the term cardio-renal disease is used.

I was fortunate in having recently a series of cardio-nephritis cases which demonstrated very nicely some of the etiological factors.

Case I.—A man, 55, who had worked as a plumber for 25 years, handling lead and solder. Onset of symptoms in January, 1914.

Case II.—A man, 51, a farmer who states that he has had excellent health and that he drank 1-2 pint whiskey a day for 15 years.

Case III.—Man, 56, a merchandise broker. Tonsils.

Case IV.—Woman, 42. Pregnancy. Toxic throughout.

Case V.—Woman, 35. Pregnancy. Laborer.

Case VI. — Man, 56. Syphilis. "606."

Case VII.—Woman, 40. H'work, tonsils and Pyorrhea alveolaris.

Case VIII.—A man, 31 years. A real estate agent. Syphilis and Pyorrhea.

In speaking of a treatment or management of a cardio-nephritic case we come first to the subject of Prophylaxis. There is an increasing tendency at the present time to look upon a glomerular nephritis as a consequence of bacterial infection. We all remember the glomerulus situated at the head of each uriniferous tubule and how it is made up mainly of a collection of blood vessels and separated from the lumen of the tubule by Bowman's capsule. This glomerulus is

Read before the S. C. Medical Association at Charleston, April 19, 1916.

the part of the kidney affected mainly by diseases of bacterial origin so in any infectious disease it is of the greatest importance to give a very simple diet, mainly carbohydrate, and to insist upon the patient taking large amounts of water to keep the kidneys flushed out and dilute the poisons which have to be excreted by the kidney cells. In the convalescence from acute infections, if the patient is kept on a diet which does not contain any renal irritants, including salt, we can probably prevent, in some instances, later chronic glomerulonephritis.

A second important prophylactic measure is the thorough search for and eradication of any source of chronic infection around the tonsils, teeth, and gums, sinuses, prostate and elsewhere.

And when a patient comes to you complaining of shortness of breath and inability to sleep and on examination he is found to have a more or less elevated blood pressure, with albumin and casts in his urine and with more or less cardiac decomposition as evidenced by swelling of the feet and legs, dilatation and hypertrophy of the heart and moistrale at the bases of the lungs, the eradication of the **source** of his trouble is our most important duty. And if he gives the history of luetic infection and has a positive Wassermann reaction specific therapy is absolutely indicated.

For convenience of description, the treatment may be taken up under the following heads:

I. **The Heart.**
   1. Rest in bed.
   2. Catharsis.
   3. Restriction of fluids.
   4. Digitalis.
   5. Phlebotomy - Bleeding.

II. **The Kidney.**
   1. Restriction of fluid.
   2. Diet.

Uraemia.

Bleeding.

1. **The Heart.**

1. Rest in bed. I take this up first of all because it is the first thing that should be done. Put the patient in bed. Don't allow him to lay around partially dressed because he will not get the absolute rest that is so essential. Do not allow him to get up to go to the toilet and if possible make him use a bed pan. Spare him every exertion that will throw extra work on the already overworked heart. If the patient is too short of breath to lie down flat give him a backrest. Absolute rest is most important

2. **Catharsis.** The second point in the treatment of the heart is catharsis. Most of these patients when they consult the doctor are water logged. The heart cannot move the bulk of fluid around the circulation and the kidneys cannot excrete it. Next to the kidneys the intestines are the most reliable organs to rid the body of fluid and poisons. Three or four fluid stools a day is what is usually aimed at and a saline cathartic is most efficient for this. As an initial dose give 3 c. c. pills and follow with an ounce of Sal Rochelle in 6 hours. Every morning thereafter the patient is given a sufficient quantity of Sal. Roch. or any saline cathartic to produce three or four fluid stools during the day. The bowel is a very efficient organ for helping to rid the body of fluid.

3. **Restriction of fluids.** The reasons the fluids are restricted are several in number, 1st. Because every ounce of fluid absorbed is taken into the circulation and means just that much more work for the already overworked heart to do; second because the three things that a diseased kidney has trouble in excreting are water,

salts and proteid and the damaged excreting properties of the diseased kidneys are still further embarrassed by the congested condition of the circulation; and third the blood pressure is reduced by mechanically reducing the volume of the blood. By restriction of fluids, I mean to limit the fluid intake to 1 quart in 24 hours if the patient is allowed a cup of coffee and a cup of tea a day that means that 12 oz. of his fluid allowance have been used which leaves only 3 glasses of water in the total 24 hours if no milk or soup are taken. As the heart action improves and the circulation of the kidney correspondingly improves, and the body fluid is excreted, the fluid allowance is increased to 40 oz. in the 24 hours on which amount a patient is usually well contented.

4. **Digitalis.** There are several points about the administration of digitalis which I want to bring out. Probably many of you will agree with me that digitalis is given in far too small doses. In a cardio-nephritic case with broken compensation a teaspoonful 60 minims of an active tincture is given every 4 hours night and day until some one of the digitalis effects is obtained and in my experience nausea is the first to appear, the dose is then cut down to 15 minims every four hours until thep ulse is 60 to the minute or the nausea continues when the digitalis is discontinued altogether for two or three days when it is resumed in tonic doses. As an emergency stimulant strophanthin in 1 milligram doses intramuscularly is by far the best heart stimulant that I know of. It comes in ampules containing one milligram and can usually be obtained from the druggist.

You must be very careful to watch for the first signs of the digitalis effect in slowing the pulse and proceed very carefully for fear of producing a heart block. I have here a very crude reproduction of a drawing of a heart to which I want to refer to in order to refresh your minds as to the normal cardiac cycle. The cardiac impulse starts in the sino-auricular node which is situated in the wall of the right auricle near its junction with the superior vena cava. In this bundle of highly specialized muscle fibers, richly enervated, originates the cardiac contraction wave. This wave spreads very rapidly through the auricles and then passes down the auri culo ventricular bundle to the right and left ventricles.

By the administration of digitalis the influence of the vagus nerve is increased and the origination of the impulses is slower. By digitalis administration various degrees of partial heart block are produced so that the digitalis must decrease the conductivity of the auriculo-ventricular bundle

It is not desirable to push the digitalis to the point of producing a heart block so it is very essential to keep a very close watch over the patient when the large doses are given.

The digitalis helps the kidneys in two ways: firstly, by helping the circulation and so relieving the congestion of the kidneys and secondly by the direct diuretic effect of the digitalis.

5. Phlebotomy Bleeding.

In a dyspnoeic cardio-nephritic patient, when the dyspnoea is due either to a uraemic state or to a decompensated heart, bleeding is of the greatest help. It is usually a very simple matter to cut down on one of the veins in the bend of the elbow, isolate it and open it and draw out as much blood as you want. I seldom draw off less than 20 oz. of blood and usually 32 oz. or 1 quart and I have never seen any but beneficial effects. In almost **every** instance there is a marked and usually immediate relief of the dyspnoea and

I have had patients to practically come out of their coma during the operation. In a badly decompensated heart the mechanical help of removing 1 quart of blood from the circulation is of the greatest benefit and the improvement in the cardiac action is almost immediate. In uraemia the bleeding mechanically removes the poisons which have accumulated because the kidney cannot excrete them and the results are most marked in most cases.

II. **The Kidney.**

Restriction of Fluid. This subject is referred to again under the heading of the kidney in order to stress it. The idea has been spread abroad that as soon as a diagnosis of nephritis has been made the patient should be given at least 2 quarts of water a day. That is all very well if the patient is excreting this water.

2. **Diet.** The three things that a diseased kidney has trouble in excreting are water, salt and proteid. When a cardio-nephritic case presents himself for treatment he should be put on a kidney rest diet that is a diet that will give a fair caloric value and one that will leave no residue to be excreted by the kidneys. Lactose or milk sugar is a very good food for this purpose. 250 grams of lactose represents 1000 colories or a fair diet. If the water be heated 250 grams of lactose will go into solution in 1000 cc or 1 quart of water and if the patient be given 8 oz. of this mixture 4 times in the 24 hours, he will be getting the ideal amount of fluid and the ideal kidney rest diet. The average patient can take this diet for about 2½ or 3 days but at the end of that time the digitalis is beginning to nauseate him and the sugar water seems to intensify the nausea. By this time the digitalis can be discontinued or reduced and the patient is put on a bread and butter and milk diet. One-half a pound of bread which makes 6 average slices with sufficient butter and 1½ pints of milk in the 24 hours usually change your patient from a nauseated unhappy patient to one very much better contented. In a day or two the patient is allowed to exchange 3 tablespoonfuls of any cereal for one slice of bread and a carbohydrate diet is gradually added. White meat and fish contain practically the same amount of proteid that the dark and red meats contain.

Uraemia. Time prevents my taking up this very interesting subject at any length. Bleeding is the surest and quickest method of removing toxins from the circulating blood and the effect of the removal of from 20 to 30 oz. of blood from a case in a uraemic coma is like raising a patient from the dead. The patient will sometimes become conscious before you can get his arm sewed up and the dressings in place. While the vein is exposed it is an easy matter to give three to five hundred cubic centimeters of a sterile 4% solution of soda bicarbonate. In touching upon the after treatment besides the diet and the effort to secure a satisfactory attitude towards his condition, get your patient to come back to you at stated intervals and keep a record of the blood pressure and urinary findings and by watching his Phthalein output, perhaps you can prolong the life of your patient by an occasional short trip to the hospital or some other place where he can be put under satisfactory conditions for a kidney rest period.

DISCUSSION

Dr. Heyward Gibbes, Columbia, S. C.

Mr. President, Dr. Heyward has brought to the attention of the Association a subject which is of very great importance to every man practicing clinical medicine. The subject

of his paper is very well chosen. There is scarcely any organ of the body the functional disorders of which are more susceptible to rational treatment than are the kidneys.

To enter upon a comprehensive description of management of all forms of cardio-renal diseases would be a task entirely beyond the scope of the time at his disposal.

The most interesting, and in a way, the most important group of cases of cardio-renal disease that come to the attention of physicians, are those associated with a myocardial insufficiency, and to those cases I wish to call your attention especially.

The management of such a case may be divided into four sub-headings. Primarily we are concerned with the diagnosis of the condition. The diagnosis of cardio-renal disease, now-a-days, does not represent a simple designation of nephritis. We have at our disposal a number of means for determining the exact functional capacity of these organs.

In the group of cases which I have in mind it is frequently a matter of nice discrimination to decide as to the part which is played by the heart in its discompensation, producing renal insufficiency through chronic passive congestion, or to what extent the renal insufficiency is the result of primary disease in these organs.

If we can take any single criterion I should say that the Phenosulphonephthalein test offers the best standard for judgment. Repeated phenosuplhonephthalein tests have been of valuable service in determining the degree of renal insufficiency depending upon cardiac disease.

After this question of renal pathology is determined, we are then in a position to apply rational therapy to the management of this particular individual.

Another matter of extreme importance in the diagnosis of cases is in seeking industriously for foci of infection and attempting by all means at our disposal to unearth whatever conditions may exist to perpetuate or to accentuate the already diseased condition of the kidneys.

This paper just presented covers, to a very large extent, the field which I have in mind.

After this diagnosis is finished, the question of treatment comes up, and we have the immediate treatment and the ultimate treatment to consider.

I shall not attempt to go into any detail concerning this matter, but wish to call to your attention these general principles: That in the cardio-nephritic with general edema and myocardia insufficiency, immediate treatment should be divided into two heads: Rest and Exercise.

To put a decompensated heart upon large doses of digitalis and to whip up an already exhausted organ would not be rational treatment, but the chart presented for your consideration enumerates the different measures which may be included under the subhead of rest in bed, catharsis, and protection of fluids and diets which come under this sub-head.

After this treatment is passed and the patient's heart is somewhat recuperated, it is then rational treatment to begin exercise and exercise of the muscle is best brought about by digitalis products.

Dr. Wm. A. Woodruff, Cateechee, S. C.

I enjoyed the paper very much, and I think it is a valuable and a good paper, but there is just one little thing about it that I want to say: I am not quiet sure that I know what a dose of digitalis is in all cases and in all preparations.

Now a teaspoonful may not be too much, but I would be a little afraid

to give that for very many doses. An ordinary teaspoon holds about 75 or 80 drops, and while I believe in giving drugs, so that you get a physiological effect, I would be afraid to give quite so much, and while he said the digitalis must be watched very carefully, I think that in some tinctures he might give too much.

I know of a lady who took two or three teaspoonfuls and was watched all night by the doctors, and who showed no ill effects at all. But a standard teaspoon, in all cases, seems to be very large.

Dr. C. F. Ross, Anderson, S. C.

I would like to say I enjoyed the paper very much, and one thing I did not catch, if Dr. Heyward mentioned it, was the elimination by means of the skin.

The first thing I have one of these patients do is to take a real good, hot bath or pack, to get the skin in good condition.

My experience has always been that we give too small doses of digitalis. Very frequently I have been in consultation with physicians and find a bottle on the mantel labeled 5 or 6 drops 3 times a day. Of course this amounts to practically nothing. Yet I do not know that I can agree with Dr. Heyward in the giving of a teaspoonful of this medicine every three or four hours. Such a dose every three or four hours would be a pretty strenuous dose.

In these cases of cardiac insufficiency I usually give about 30 minims of digitalis. It is undoubtedly the best remedy we have and it will either kill or come very near remedying the situation. I usually tell my patients that they are either going to die or get better. Sometimes they die. Very often they die from the use of digitalis, if it is not carefully watched or when given in too large doses.

Dr. Kenneth M. Lynch, Charleston, S. C.

As to the question of elimination of fluids, &c.; Whatever may be the underlying cause of renal edema the fluid which accumulates in the tissues of the body serves automatically to dilute certain poisons—and products—and in that way may decrease the activity of those intensified poisons on the kidneys and also on the body in general.

I have wondered whether this profuse catharsis and diaphoresis might not be bad in some cases; might not even precipitate an attack of uremia by a condensation of these poisons and so intensifying their action; and I have often wondered whether this is actually sound practice or whether it is simply a matter of long-standing custom, to decrease the fluids and to increase the elimination of those fluids, both by catharsis and by diaphoresis. However, I have not had experience in the practical treatment of these cases.

Dr. Lynch: Mr. President, we would like the guests of the Society to discuss these papers.

The President: Will you discuss the paper, Dr. Barker?

Dr. L. F. Barker, Johns Hopkins Hospital, Baltimore, Md.

The paper seems to me to include a careful analysis of the conditions discussed, and the treatment, on the whole, seems to me to be very sound.

Accurate diagnosis, of course, should precede the therapy in each case. As Dr. Gibbs has said in discussing the paper, it is important to try to make out in how far the renal lesions at the time are responsible and in how far the myocardial insufficiency. In hypertensive cases, edema and marked albuminuria are often due to the myocardial insufficiency, and our treatment should then be directed toward

the myocardium rather than toward the kidney directly, for if the heart muscle maintains its power, elimination through the kidney will be promoted.

The phenosulphonephthalein test of Rountree and Geraghty is very helpful in differential diagnosis. The renal test diet, first introduced by Schlayer and Hedinger and modified by Mosenthal, can be used by any practitioner, and it helps us to distinguish the cases of myocardial insufficiency from the renal proper.

As to the use of digitalis in myocardial insufficiency, I think the doses should be large enough to produce a physiological effect. In my experience, with a good, strong tincture, 15 minims every four hours for eight or ten doses will usually suffice.

In severe cases of myocardial insufficiency I prefer to use intramuscular injections of Bohringer's strophanthin. Sometimes, in myocardial insufficiency with marked passive congestion it is difficult to know how much digitalis, given by the mouth, actually gets into the system. Strophanthin intravenously administered is dangerous, but intramuscular injections will give us a cardio-tonic effect, if there is any way of obtaining it by means of a drug. In large adults I give one milligram per day for two or three days into the gluteal muscle, massaging the muscle and applying hot water bags over it after the injection. In feeble patients one-half of an ampule—that is, half a milligram—twice a day is safer.

If there is edema, due to myocardial insufficiency, it is well to restrict the fluid intake. I often use, with advantage, the Karrel diet,—28 ounces of milk in the twenty-four hours—no other fluid or solid intake for four or five days. In myocardial insufficiency with edema, on about the third day, after rest in bed and this diet, urine will often be secreted in large quantities by the kidneys; then, when the edema has begun to clear up if one gives infusion of digitalis, tablets or digipuratum, or intramuscular injections of strophanthin, the recovery from the myocardial insufficiency is, sometimes, almost miraculous.

I desire again to express my appreciation of the careful analysis made by the reader of the paper.

Dr. Heyward Closes:

There are several points brought out which I would like to mention.

First, I would like to thank all the gentlemen for their discussion, and particularly Dr. Barker. Dr. Woodruff stated that he had known of a patient taking two or three teaspoonfuls of digitalis and had then spent an anxious night watching for the effects. He should have watched the following night for those bad effects, because you do not get any noticeable effect from digitalis from 20 to 24 hours.

Dr. Ross stated that he usually started the treatment for cardio-nephritis by putting the patient in a hot pack unil he sweated freely. While in Bellevue, where there are a large number of cardio-nephritic cases, the question was always in my mind what good effects were obtained from hot packs, so in a cardio-nephritic case personally I rarely use a hot pack. It is embarassing to an already embarrassed heart action. I use a hot pack in a patient with acute nephritis, but more from habit than from the hope of much resulting benefit.

As to the amount of toxins already excreted through the skin, that is a very doubtful question. Water is excreted through the skin, but as for the actual amount of toxins excreted through the skin, that is a very much discussed subject at the present time,

and the general opinion seems to be there is very little actual toxin excreted through the skin.

I thank the gentlemen for their discussion.

THE HOME OF UNCURED AND SOME OF THE RESULTS OF THE HEAD COLD.

By Charles W. Kollock, M. D.,
Charleston, S. C.

IT is probable that of all the ills to which man is heir not one is more common and none is more often mentioned or more lightly regarded than the **head cold,** and yet if it were stated that to these head colds more than half of his ills were really due could such a statement be disproved? In the "Handbook of Therapy," issued by the American Medical Association, may be found the following:

"Whether or not every cold is due to contagion or to a germ, chilling, whether indoors or outdoors, certainly predisposes to colds. It is quite probable that chilling of the surface of the body congests the inner organs and possibly the mucous membranes of the air passages. If the mucous membrane of the nose is congested, it more readily becomes inflamed by irritation or by germs."

Whether colds are caused by germs or whether they are due to chilling, or to both acting in unison, or the one paving the way for the other has not yet been proved and it will probably be sometime before the last word is spoken which shall convince all.

In the meantime colds are being taken, or caught, or more properly speaking the person is, and the average man or woman pays but scant heed to this affection. The text books tell how colds should be treated, how they can be cured and even aborted and the teachers are careful to instil into the minds of students the great importance of prompt and thorough handling of colds, but it must be the experience of all physicians that few ever follow the advice so well given and it seems that as the uncured results go on accumulating man must eventually become a creature in whom the catarrhal feature is the most prominent. Aye even as he has a mucous tract running from one end to the other even so does this tract become involved throughout from the effects of the uncured head cold.

I do not believe that the busy practitioner often thinks, while prescribing for one suffering from a cold, of the many complicated parts involved. I may, therefore, be forgiven for daring to remind you of a few important characteristics of the upper air passages and to impress upon you the urgent necessity of keeping these parts healthy. While the sense of smell and the resonance accorded the voice are important functions furnished by the nose they are not to be compared to that of preparing the air for its reception in the lungs. It is a plant for warming, moistening and extracting noxious agents from the air before it reaches the delicate and highly sensitive tissues of the lungs. The nose may be compared to two chambers, open at each end, with a central partition (the septum) dividing them. On the outer walls are two, sometimes three or more, shelf like projections that curve downwards. Above, from behind and the outer sides are openings into cavities which communicate with and drain into these chambers. Beneath the lower shelf, or inferior turbinate bone, is found the opening of the nasal duct through which the tears drain. Beneath the middle shelf,

Read before 1st District Association at St. George, S. C., July 4th, 1916.

or middle turbinate bone, are the openings of two large and a number of smaller cavities. These chambers, the partition between them and the communicating cavities are all lined with mucous membrane, covered by epithelium which is squamous below and columnar with ciliae above and in the adjoining cavities. The ciliae are constantly wafting the secretions on and out so that the cavities may be ever ready for their work of purifying the air. It may be inferred, therefore, that in order for the nose to properly perform its functions that these parts must be normal. Probably in no other portion of the body may the parts be so abnormal and yet continue to do the work in a fairly satisfactory manner.

When a head cold is taken the entire picture is changed; the chambers are no longer spacious and well ventilated, the entire mucous covering becomes swollen and congested and instead of preparing the air for the lungs it now hinders its free entrance to the nose and ventilation, which is so important for it and the accessory cavities, is restricted or stopped and drainage obstructed. Consequently the secretions which should be wafted on by the ciliae collected in the cavities, become infected and the warming and moistening plant is changed into an ideal one for the culture and growth of germs. Nature, however, is a wonderful worker and in spite of the disorganization of her machinery may soon have things running smoothly again. On the other hand a vast number of infections remain to be kindled by a subsequent cold and the changed conditions become permanent. The septum remains thickened and should there be deflections and spurs they tend to increase in size and by occlusion of space and pressure upon contiguous parts interfere with breathing prevent drainage and ventilation, cause reflex irritation, such as sneezing, coughing, epiphora, tinnitus aurium and headaches which are vague, changeable and sometimes agonizing in nature. The enlarged or deflected septum may by pressure against the middle turbinate bone cause it to close the mouths of the maxillary and frontal sinuses and to block the drainage from the anterior ethmoid cells, thus causing frontal and maxillary sinusitis and chronic ethmoiditis. Enlargement of the inferior turbinate bone will stop drainage through the nasal duct and cause epiphora, lachrymal abscess and dacryocystitis. From a diseased maxillary sinus infection may spread by veins and lymphatics to the orbit from which it is separated by thin bone in which also dehiscenses are often found. The infraorbital nerve which lies in a bony canal, sometimes protected and again not, in the roof of the sinus may also become infected and cause much suffering. The veins of the ethmoid labrynth communicate freely with those of the orbit and meninges and many an obscure case of meningitis has had this origin while orbital abscess and panophthalmitis are by no means uncommon sequels. The frontal sinus, on account of its position is the most easily drained of all the sinuses but when its ostium becomes obstructed by an enlarged middle turbinate or ethmoid bulla infection of the cavity is almost sure to follow and the person may suffer from a pain that unfits him for everything, makes life a hideous nightmare and himself a subject for suicide. Infection may extend from this cavity to the brain, the orbit and even back to the nose. As the optic nerve leaves the cranial cavity to enter the orbit it lies in a bony canal that is separated by the thinnest wall of bone from sphenoidal sinus

and some of the posterior ethmoid cells. From an uncured head cold these cavities have become infected because drainage and ventilation were interrupted and many cases of obscure blindness have resulted from pressure upon or inflamation of, or both, on this nerve by the diseased parts. Cases of tic douloreux have been traced to diseased sphenoidal sinuses while hosts of reflex symptoms disappear after deflected septa have been corrected and spurs removed. From head colds the pharynx and larynx are often seriously affected; infection of the middle ear and thence of the mastoid cells occurs far too often and it should be mortifying to think how many persons become deaf because some one has been careless in treating or warning them of the danger of neglecting head colds. The tonsils and adenoids are also commonly affected by head colds and if all the ills that are supposed to be caused by diseased tonsils were mentioned there would be little room for anything else. The results of head colds are constantly seen in the larynx, bronchial tubes and lungs while the stomach and intestines do not escape. the heart, kidneys and liver are not safe from this wide spreading source of disease which with care, supplemented by good advice, can easily be restricted to its own home until nature has reasserted herself and the breath of life once more passes unobstructed through these purifying channels to furnish the health and comfort which the Almighty intended for man to enjoy.

ABSTRACTS OF AMERICAN PROCTOLOGY SOCIETY.—MEETING HELD AT DETROIT, MICH., JUNE 11th AND 12th, 1916.

Why Proctology Has Been Made a Specialty.

By T. Chittenden Hill, M. D., of Boston, Mass.

IN this address Dr. Hill calls particular attention to the inadequate treatment that rectal fistula receives at the hands of the general surgeon. He claims that the general surgeon "has never taken the pains to learn the underlying principles of a fistula operation, nor has he the requisite skill, experience or inclination to carry out the necessary steps in the post-operative treatment of these cases, to bring them to a successful conclusion."

While in London there are two hospitals devoted to the exclusive treatment of disease of the rectum. Hill feels that better results can be obtained by establishing special departments in our large general hospitals. He urges that Proctologists be appointed to all general hospitals. The many advantages of staff association consultations, etc., in which proctology touches on the work of men in other fields, would prove of mutual benefit.

He believes that in the near future a fifth year will be added to the present four year medical course. This fifth year will probably be devoted to the medical specialties and proctology should be included among them. The undergraduates certainly should have the chance to acquire reasonable proficiency in the newer methods of examination and treatment of rectal disease.

Dr. Hill also presents a formal paper for the consideration of the members of the Society under the title of

Prolapsus Ani in Adults.

By T. Chittenden Hill, M. D., of Boston, Mass.

The theory is advanced that all cases of procidentia recti are the results of neglect or improper treatment of what was in the beginning a simple form of mucous membrane prolapse. Correction of the condition early may prevent serious infirmity later in life.

He describes at length an operation modified after that of the late Mr. Gosnell, of London, England.

In this operation he employs a multiple suture. He advises removing the excess of tissue distal to the ligature.

The operation is performed under local anethesia and is advised for patients of all ages. It is particularly suitable for use in prolapse of the age.

The author claims that the operation is painless, short and easily performed. There is absence of hemorrhage and the end results are satisfactory.

The Post Operative Treatment in Rectal Surgery.

By W. H. Stauffer, M. D., of St. Louis, Mo.

This paper is based upon a review of over 25,000 rectal cases treated, of which 1,500 were operative. Four hundred of these cases had been operated upon previously by approved method by other surgeons.

There are two reasons for these 400 secondary operations. First: Not selecting the operation indicated by the pathology. Second: Improper post-operative attention.

In selecting an operation or treatment the following requirements must be met. First: Complete restoration of functions. Second: Time required for cure. Third: Pain produced.

Unsatisfactory results—complete or partial incontinence often are caused by needless traumatism. He does not believe in divulsion. Division of nerves causes sensory disturbances.

Incontinence may be due to fistula operation. Believes that where the fistula opens more than two inches above the sphincter the two step operation is indicated.

In dealing with malignancy he mentions the operation of Evans producing the least mutilation and disturbance of function in selected cases.

Operations should only be performed after a definite diagnosis has been made.

It is insisted that the best results are obtained by proper diagnosis, careful preparation, appropriate operation, and careful after-treatment. The surgeon should always make the first dressing and should always inspect the operative field daily. The patient should be kept under observation until recovery is assured.

* * * * *

Photography for Record and Teaching.

By Collier F. Martin, M. D., of Philadelphia, Pa.

Martin draws attention to the fact that students may be better interested in a lecture if their attention be fastened by an appropriate picture or illustration. After experimenting with photographs or drawings, passed among his class, and also with charts hung on the wall, he found that he could better interest the students with lantern slides thrown upon a screen. The darkness of the room tends to lessen the distraction and to encourage concentration. By having photographs of actual cases, as well as of the different steps in an operation, it was easy to interest the class and to explain far better than could be done in a clinical lecture.

The equipment is briefly described and suggestions are given as to prop-

er rendering of color values by the use of light-filters.

Attention is called to the necessity of proper exposure and lighting to give negatives with sufficient detail to properly show pathologic conditions. Such negatives only are useful for illustrations, record or lantern slides.

Many case histories are incomplete without a photograph to clarify the description.

Hints are given for copying, making line drawings, diagrams and classifications to produce lantern slides suitable for teaching.

It is suggested that every hospital have a department devoted to photography. This could easily be operated in conjunction with the X-Ray department.

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NEW YORK.

In honor of the fiftieth anniversary of its founding, The Battle Creek Sanitarium will have a notable celebration on October 3, 4 and 5. The program is rich in varied features, among which are a great banquet, receptions, athletic contests, industrial pageant, outdoor spectacle, re-union of former patients, and a series of conferences on sociological, eugenic, sanitary and medical subjects in which prominent speakers from all parts of the country will take part. A considerable attendance of physicians is expected.

The beginnings of the Sanitarium were sufficiently humble. A two story frame house on a knoll in the outskirts of an obscure village, two physicians and one patient, comprised the tangible portion of what was called the Western Health Reform Institute. But the true riches of the establishment lay in the ideas on which it was based. These included not only the "water cure" but diet reform, dress reform and other "simple life" measures for the physical welfare of men. These fifty years have seen as big a change in the methods of the Sanitarium as they have in its equipment of lands and buildings, yet those pioneers held the grain of the truth. In one sense, the present great enterprise, with its imposing display of architecture, its marvelous apparatus for accurate diagnosis and the healing of the sick, its corps of skilled physicians, trained nurses and hundreds of other employees, its fame, which has spread to the four corners of the world—is merely the outgrowth of that modest "house by the side of the road."

After a decade of moderate success, the institution came under its present management. New policies, new methods and new principles were introduced. The old time "water cure," which was a rub-of-thumb affair, was replaced by rational hydrotherapy. The newest developments of medical science, both as to methods and mechanism, were gradually added in the effort to create an institution that should show in practical operation all the resources of physiologic medicine. At the same time, stress was laid on supplying all the comforts of a home and a hotel, in addition to facilities for the administration of baths of every description, electricity in its different forms, medical gymnastics and other rational agencies, with careful regulation of diet.

Steady growth led to successive enlargement of the accommodations. In 1902, a fire destroyed the main building and hospital. In planning the present magnificent structure, advantage was taken not only of the experience gained in the conduct of this institution but of similar enterprises and hospitals in this country and in Europe. The main structure is 550 feet long, fifty feet wide and six stories high. There are three extensions in the rear. To make the place entirely fireproof, wood was eliminated everywhere save in the doors and window cases. A ventilating system supplies 150,000 cubic feet of fresh air per minute. The cost of the building and its equipment has been nearly two million dollars. An annex purchased five years ago has rooms for from 250 to 300 persons, and in addition there are several large dormitories and numerous cottages for patients and employes. At present, there are about 1,000 guests, including those not receiving regular medical attention, while a force of about 1,700 persons is employed to care for them. This fact gives a striking proof of the elaborateness and complexity of the care bestowed on the sick in a modern Sanitarium.

Last year a new surgical hospital was opened, embodying the latest and most scientific ideas in construction and equipment. Being purely a charitable institution, and having no dividends to pay, the Sanitarium is able to make liberal expenditures for the indigent sick. In one recent year these amounted to over $150,000, and the total sum for the half century has been over $1,400,000. The total number of patients to date is over 104,000; this excluding guests not under a physician's care. At the present time, the patronage is far in excess of that of any previous time.

BULLETIN NO. 9.

Reasons Why Physicians Should Patronize Advertisers in Their Own State Journal

The reasons why physicians in other states should patronize the advertisers in their Journals, apply as well to you and your Journal. It's perfectly simple: if you will buy goods from the advertisers, you will have a better Journal. Read the "reasons why":—

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SOUTH CAROLINA:—We could not run a Journal without the advertisers, and our constant effort has been to accept only the highest class of business.

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TEXAS:—Our advertisers are guaranteed to us, and we in turn guarantee them to our readers. Is that worth anything to the prospective buyer?

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WEST VIRGINIA:—When writing advertisers, please be sure to mention the fact that you are writing them because you have felt that they deserve support since they are carrying space in our advertising pages.

WISCONSIN:—Goods and institutions advertised in this publication are absolutely reliable, and every dollar spent with your advertisers is a dollar contributed directly toward the maintenance of your Journal.

We urge every physician who reads this, to adopt these excellent recommendations in his own practice. Do it for the advancement of ethical medicine; for the immediate benefit it will be to you personally in securing reputable goods, and just prices; to encourage reputable firms to patronize your Journal and for the satisfaction and pride you will have, as a joint owner, in the success of your own Journal.

YOUR EDITOR.

Numbering
pp 297, 298
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The Journal OF THE South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.

Annual Subscription, $2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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EDITORIAL

I. The Development of the Science of Diagnosis.

In the September issue of the Journal was printed the address delivered by Dr. L. F. Barker before the Charleston meeting of the South Carolina Medical Association. It deserves the attention of every member of the Association. Those members who were at the meeting will enjoy the opportunity for review and close study of some of the ideas advanced by Dr. Barker, and those who were so unfortunate as to have failed to hear its verbal delivery will find a degree of compensation in the freshness and thought-inspiring features of the printed paper.

It is interesting to think of the "factors that have contributed to advances in diagnosis," as seen by Dr. Barker, in the light of local conditions and application. In his review of this subject, Dr. Barker has pictured to us conditions as they exist in the most enlightened and progressive medical centers of this country, and one is conscious of a just glow of pride in the realization of the substantial progress in the efficiency of the profession as depicted by him. In South Carolina we have already attained to some of the ideals presented by him, but in some respects we have only entered upon the threshhold of the advantages which he has shown us, while in others we have scarcely made an audible rap at the door. We shall refer briefly to the six "factors" which he considers.

1. In the matter of correlative premedical education, South Carolina fortunately has advanced apace, and is well abreast of the times. Our sys-

tem of high schools and the equipment and standards of our institutions of higher learning furnish ample opportunities for the preparation of our prospective medical students. Thanks to the untiring efforts of a small group of men in connection with the medical college in Charleston, our State now offers to these students the opportunity of pursuing their studies in a Class A institution, and it must have been a source of supreme satisfaction to all of our members at the Charleston Meeting to note the attention which was devoted to the departments of anatomy, physiology, pathology, chemistry, and pharmacology. In the matter of fitting students for the practice of medicine, we may say for South Carolina "well done."

2. The development of specialization in this State has not progressed as rapidly as might be desired. But recent years have witnessed a decided advance in this respect. As an example of the advantages of specialization, witness the advances of surgery in our midst, both as regards scientific achievement and practical efficiency. Our surgical clinics are highly developed, the technical skill of many of our surgeons is widely known, and the scientific value of our surgical records is beyond question. However, the fields of medicine, pediatrics, genito-urology, neurology, Roentgenology, psychiatry, and clinical pathology are relatively untilled, and a mass of valuable clinical material is slipping away unused for science because of the deficiency of specialistic effort. It is to be hoped that the next few years will see material changes in this respect, and that technical investigation will be placed upon a proper basis in this State.

3. The question of group formation among medical men meets with two pertinent difficulties in South Carolina, deficiency in specialization in diagnostic work, and an inherent prejudice against the favoring of one practitioner by another. The first of these obstacles is rapidly approaching solution, and the larger cities of the State will soon be equipped with their coteries of special workers who will be enabled to combine their efforts for increasing their efficiency in services to patients, in thoroughly establishing their community interests, and in cooperating for the more scientific utilization of their clinical material. The second objection is a vestige of the feeling of jealousy which is too often harbored between general practitioners, and which usually varies inversely with the size of the communities in which they work. This attitude has been combined with an element of distrust on the part of some of the profession for many of those who are gradually entering upon some specialistic field, and is not entirely unnatural when considered from this point of view. A general practitioner hesitates to call to his assistance a diagnostician who is ready upon occasion to assume the duties of family physician, an internist prefers as laboratory worker one who is not engaged in the field of internal medicine, and so on in many other ways may these combinations be arranged, the objections being based upon the dual feeling of unfairness in combining the prestige of specialization with general duties and the suspicion that the combination reduces efficiency. But further development of specialized work will eventually eradicate this prejudice. With a clear delimitation of function, the overlapping of individual spheres gradually disappearing, distrust will give way to confidence, antagonism will yield to cooperation, and the profession and the public will reap the rewards of united efforts.

4. Unfortunately the opportunity for research work in this State is extremely limited. Scientific investigation is usually unproductive of material income, and in order that it may be carried on provision must be made for those engaged upon it. This is accomplished through endowed institutions where every equipment is provided and a maintenance established for the workers. Our lack of facilities for the type of application is chiefly due to the inherent economic conditions of the State that have existed since the Civil war. But private fortunes are again beginning to make their appearance, and it is to be hoped that in the near future some public spirited citizen or citizens will make provision for the establishment of an institution for medical research. The realization of this will be greatly furthered by the members of the profession keeping the possibility ever in mind, and of stressing the importance of such an institute whenever the disposition of funds for eleemosynary purposes is to be considered.

5. Our County Medical Societies, the District Societies, and the State Association furnish ample means for intercourse among the members of our profession, and the programs at these various meetings are usually full and instructive. Our own State Journal, the Southern Medical Journal, and the Journal of the American Medical Association supply the medical literature wants of the majority of the profesion in the State. But it is encouraging to find that the subscription lists of many of our physicians include a great many more periodicals.

6. The education of the public in South Carolina with reference to medical matters is necessarily a slow process. Our better class of citizens scarcely need instruction concerning the advantages of early and complete diagnoses, but the majority of our public is woefully unenlightened on such matters. An effort on the part of the South Carolina Medical Association to institute a propaganda for health and hygiene throughout the State would be one of the most commendable works in which we could engage.

The Association is greatly indebted to Dr. Barker for calling these matters to our attention, and it is to be hoped that our annual meetings will ever be marked by adresses that carry as much food for thought.

J. H. G.

Announcement of Committees Appointed by Dr. C. B. Earle, President South Carolina Medical Association.

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C. F. Ross ..... Anderson
J. S. Matthews ..... Denmark

On Public Policy and Legislation.

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On Hospital Standardization and Efficiency.

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A. E. Boozer, Ch'm. ..... Columbia
C. F. Ross ..... Anderson
J. G. McMaster ..... Florence

ORIGINAL ARTICLES

HEMATURIA FROM A DIAGNOSTIC STANDPOINT.

Clyde F. Ross, M. D.,
Anderson, S. C.

POSSIBLY there is no more frequent or more perplexing question confronting the urologist than that of the origin and cause of hematuria. Nothing will cause a patient to seek the services of a physician more readily than that of blood in the urine, and at the present time the general practitioner realizes that if he cannot easily ascertain the cause of the blood, that the condition is one to be referred to the specialist, consequently the specialist is seeing more and more of these cases every day. On the other hand, when it is considered that the causes of hematuria approach the century mark, one can readily understand it is a very perplexing question to ascertain the origin of the blood.

Read before the South Carolina Medical Association at Charleston, S. C., April 18-20, 1916.

The term hematuria is limited clinically by some to those cases having blood enough to be detected microscopically, but the better definition would be to apply it to all cases of blood in the urine.

We all recognize the fact that hematuria is a symptom of some disease not necessarily confined to the urinary tract but may be due not to abnormal conditions of the blood, general intoxications, ingestion of certain drugs or certain nervous diseases.

It is becoming more and more accepted that the term "Idiopathic" or essential hematuria is a misnomer and that the blood is due to some lesion of the kidney itself or to some extrinsic cause acting on the kidney.

Blood somewhat changes the physical properties of the urine. The reaction is usually alkaline, the specific gravity is not materially altered, the odor is unchanged, and the color is altered according to the quantity of blood present.

No attempt will be made in this paper to discuss the various theories

of essential hematuria or those of perplexing unilateral hematurias but an effort will be made to show that the location of the origin and the cause of the blood is no trivial matter and that it cannot often be accomplished at one sitting, but in some cases probably days will be consumed before one can ascertain the cause of the blood. Nor will time permit one to go into details in discussing the various causes of hematuria, so only will we try to locate the origin of the blood and then discuss briefly the most frequent causes of blood from the kidney.

Let's be sure we are dealing with a hematuria and not a hemoglobinuria by a microscopic examination of the urine. The mere presence of blood in the urine indicates neither the part of the tract it comes from nor its causative disease and neither do the epithelial cells or pus cells associated with the blood give and indication as to the origin of the blood for the epithelial cells lining the urinary tract are identical throughout and so are pus cells that get in the urine.

It is also well to recall that in women blood in the urine means very little unless taken by a catheter. It occurs physiologically at each menstrual period and may also arise from various diseases of the genital tract.

One should never over-look the fact of hematuria being caused by diseased conditions of the blood, acute malignant fevers and the ingestion of various drugs of which urotropin should be considered as it is recognized that even in small doses it will sometimes cause blood in the urine.

In cases of obscure origin of the hemorrhage, a complete clinical history should be taken, a thorough examination of the body as a whole and of the urinary tract in particular should be made, signs of nephritis and other kidney lesions should be looked for in the cardio-vascular system, and in repeated examinations of the urine as well as in retinal examinations, and X-Ray plates of the whole urinary tract should be made.

Urethra.—Hemorrhages from the urethra are due to trauma, new growths, stones, and urethritis. As a rule, the origin is very easy to locate, unless the hemorrhage is free from the posterior urethra, and they are usually located by the general practitioner. Hemorrhage from the anterior urethra, if free, often oozes from the meatus independently of micturition. If not so free it is initial and is followed by clear urine. Hemorrhage from the posterior urethra in the male runs back into the bladder and settles in the bottom causing the first urine to be clearer than the last. Clear urine following the introduction of the bladder catheter and thorough washing out of the bladder indicates a urethral or prostatic source. The use of the air inflation urethroscope clears up the location of the hemorrhage.

Prostate.—The most frequent causes of hemorrhage from the prostate are trauma, tumors, hypertrophy, and inflammations. Bleeding from the prostate is characterized by the same features as hemorrhage from the posterior urethra. Attention has also been called to the fact that initial hematuria followed by clear urine and ending in a terminal hematuria is characteristic of hemorrhage from the prostate. Tumors of the prostate or a large prostate can be palpated. Guyon claims one of the commonest forms of bleeding to be due to a large prostate. He has called to our attention the statement that simple hypertrophy of the prostate is quite commonly associated with sever hem-

orrhage, more markedly than any other disease of the prostate.

Bladder.—The most frequent causes of bleeding from the bladder are stones, tumors, (malignant and benign), tuberculosis, and cystitis (acute, sub-acute and chronic). The cystoscope is the most important of the diagnostic means we have in hemorrhage of the bladder as with the air inflation cystoscope we can very readily locate the bladder source of the hemorrhage. The cystoscope should not be used in acute conditions of the bladder or urethra unless very imperative. The bladder catheter is of value also in determining if the hemorrhage if from the bladder or up higher. If the hemorrhage does not improve by washing the bladder or if it is exaggerated, the hemorrhage is most likely from the bladder.

Blood that readily separates from the urine upon standing in a conical glass presupposes its coming from the prostate or bladder rather than from the kidneys and in the 3 glass test, the last contains the most blood, whereas in hemorrhages from the kidneys the quantity of blood is uniform in all 3 glasses.

If upon using the water inflation cystoscope, frequent washings of the bladder do not clear it up sufficiently to allow an inspection, the hemorrhage is probably of bladder origin. If it returns clear after two or three washings, the bleeding is probably from the kidneys. Sometimes owing to a small bladder capacity the urologist is deprived of his most valuable means of diagnosis, the cystoscope, in which case he has to utilize all other methods and signs available to arrive at a decision as to the origin of the blood. Also, we occasionally see patients whose bladders and urethras are so sensitive that even general anaesthesia does not completely overcome the sensitiveness.

The sound will sometimes be of service in locating stones as well as palpation. Hemorrhage is the first symptom in 85% of bladder tumors and tumors should always be thought of in bladder hemorrhages. Bladder hemorrhages due to tumors are usually very severe and are revived by local applications or the passage of sounds.

Ureter.—Causes of hemorrhage from the ureter are trauma, tuberculosis, and stones. If upon examining a specimen of urine, there are present large cylindrical clots, it is safe to say they come from the ureter. To make a diagnosis in ureteral bleeding, we are again dependent upon our cystoscope with the addition of the ureteral catheters. To ascertain ureteral bleeding the catheter should collect specimens from the first and second thirds of the ureter and then be passed into the pelvis of the kidney.

Kidney.—Renal hematuria is most frequently caused by nephritis, stones, tuberculosis, kidney tumors, trauma, and pyelitis, but we should not lose sight of the great many other causes for bleeding from the kidney. The most common cause is Bright's disease. In most cases it is of small quantity, but that severe hemorrhage may occur as the result of nephritis has long been recognized.

Bleeding from the kidney is diagnosed by excluding all other sources. The blood is thoroughly mixed with the urine, and the blood cells are "washed out" and appear as swollen disks. If the urine also contains mucous, hyaline and granular casts or casts covered with blood cells it is very suggestive of renal hematuria, but the absence of albumen and casts do not exclude the presence of nephritic changes in the kidney.

The cystoscope is probably the most important of all diagnostic methods we have; as with it and the ureteral catheters, we can exclude the bladder as the source of the hemorrhage and ascertain which kidney is bleeding, if not both, and with one of the functional tests, can determine the efficiency of either or both kidneys.

Next in importance is the X-Ray by which we determine if the cause of the bleeding is a stone or if there is a tumor and can sometimes get an idea as to the variety of the tumor. Also by its use in connection with injection of the kidney pelvis and ureter with collargol, we can determine the amount of destruction of kidney tissue, the presence of hydronephrosis, or kinks in the ureter.

Very often there is present only the one symptom of any kidney lesion, that of painless hematuria. In locating the origin of hematuria, pain anywhere in the urinary tract points to that location as the origin of the blood. The most **frequent causes** of painless hematuria are nephritis, renal varix and villous papilloma of the renal pelvis. That calculous disease of the kidney, renal tuberculosis, and acute congestion of the kidney may give rise to symptomless hematuria, is a well recognized fact.

Nephrolithiasis.—In differentiating the most frequent causes of renal hematuria, the X-Ray, the waxed tipped catheter, the symptoms of renal colic if present followed by bleeding, the presence of numerous crystals in the urine, and all symptoms being increased by exercise and jolting point to a stone as the cause of the hematuria. Hematuria is one of the principle symptoms in 37 per cent. of stones in the kidney.

Tuberculosis.—Bladder pain, tenesmus, frequency of urination, pyuria, pain and hematuria occurring independently of exertion or jolting, and often at night, loss of weight, strength, and appetite, fevers and sweats, argue for tuberculosis of the kidney which diagnosis is rendered positive by finding evidences of tuberculosis elsewhere in the genito-urinary tract such as bladder, prostate and testicle, or by finding tubercle bacilli in the urine along with a positive guinea pig test and a positive reaction from tuberculin.

Renal Tumors.—Hematuria occurs in 64 per cent. of malignant renal tumors, as a primary symptom in 36 per cent., and as the only symptom in 12 per cent. Renal tumors occur in patients over 40 years of age as a rule. The pain is slight, the hemorrhage frequent and severe. There is no frequency of urination and no pyuria unless infected, there are no fevers and sweats, loss of weight and appetite progress slowly, the tumor is marked and can be easily outlined with the X-Ray; the finding of fragments of tumor and atypical cells in the urine make the diagnosis of renal tumor comparatively positive.

Nephritis.—One of the most frequent causes of obscure hematuria is that of chronic interstitial nephritis. If the other symptoms of nephritis are present the diagnosis is not so hard, but often a diagnosis of the cause of the bleeding is only made in the laboratory after the kidney has been removed. Microscopical sections of kidneys removed for essential hematuria are showing that a great percentage of them have evidences of interstitial nephritis. If the cardio-vascular system shows presence of cardiac hypertrophy, arterial sclerosis, increased arterial tension, if there is a large quantity of urine with low specific gravity and containing albumen, hyaline, granular and blood casts, we could easily make a diagnosis of hemorrhage from

nephritis, but these symptoms are often not present.

In a great many cases we have to resort to a nephrotomy to arrive at a conclusion as to the cause of the blood from the kidney and from there take the kidney to the laboratory and even then conclude it is a case of "Idiopathic" hematuria.

So, after having sailed with you the fossa navicularis and the canal of the urethra and having led you into the by-ways and hedges of the prostate and traversed with you the inundated planes and germ laden pastures of the bladder, after having climbed with you the deep ravines of the ureters, taken you into the pelvis of the kidneys and mounted with you the summit of the pyramids of Malpighi, what have we sometime to offer you except an "Idiopathic" hematuria; so I pray thee, "Be charitable to all mankind," and do not become impatient if the urologist does not ascertain the cause of your patient's hematuria in the space of a few hours.

DISCUSSION:

Dr. W. R. Barron, Columbia, S. C.

Dr. Ross's paper should be of interest to every man practicing medicine. The paper is full of a whole lot of good points and I think it behooves every man here, when he gets his Journal, to keep that paper before him.

There is only one point of difference I would take issue with him on —in picture work—using Thorium instead of Callargol. In the hands of a very expert man it might be all right to use Callargol, but why should we use any preparation fraught with such dangers, when we have equally as good a remedy not fraught with danger?

Dr. Burns has put Thorium out for our use; it is much easier to prepare and to introduce into the kidney and gives a much more correct picture than does Callargol.

Urotropin is prone to produce hemorrhage in many people, and when using it we should withdraw its administration when this effect is produced.

Dr. Marion Wyman, Columbia.

This is a most scientific paper, and the main thing which the general practitioner should get out of it is that hematuria very frequently is just a handwriting upon the wall, of something very serious, and if you cannot determine just immediately what it is, you had better send the patient to a specialist and have it worked out with a cystoscope.

We ought to think about this paper and keep it to turn to, because it covers the field fully. It is not a text-book, either.

Dr. E. Cornish Baynard, Charleston, S. C.

I desire to emphasize one point in regard to the use of the cystoscope and that is, that there are some cases which are most difficult to clear up and which require some time to work out. There seem to be some men who believe that when a case is referred all the urologist has to do is to insert the cystoscope and find the diagnosis immediately.

Dr. N. B. Edgerton, Columbia, S. C.

One thing that I want to reinforce a little is the fact that when a man gets hold of a patient in whom there is a complaint of only a slight hematuria, the physician makes a very grave mistake if, without further investigation, he calls that bleeding an essential hematuria and lets the patient go without further investigation. It is probable in many cases that he is letting a unilateral or bilateral tubercular infection of the kidneys gain such headway that it will be impossible, later, to put the man back upon his feet.

It certainly requires an extended study to make a positive diagnosis of these cases. Particularly is there needed urethral catheterization, followed by a complete bacteriological study of each kidney's secretion.

Dr. Ross Closes:

Mr. President, there is a great deal of discussion as to the value of Collargol. The main objection to it is not in the medicine itself so much, as in the way it is used. People who report bad results from the drug fill the pelvis of the kidney with it by means of a syringe and too much pressure. It has been proven that given by the gravity method it has not brought about any serious results.

I want to thank all the gentlemen for the complimentary remarks that they made about the paper. The paper was written, really, to try and impress the general practitioner with the fact that it takes some time, usually, to find the cause of the hematuria, and then, after taking up all the time, we cannot always locate the cause.

THE LAGGING INTESTINE.

A Clinical and Therapeutic Study of Constipation.

George M. Niles, M. D.,
Gastroenterologist to the Georgia Baptist Hospital, Consulting Gastroenterologist to the Anti-Tuberculosis Association, Etc.

Atlanta, Ga.

CONSTIPATION, like diarrhea, is a comparative term, and may be defined as a condition in which the feces are not passed sufficiently often or in sufficient quantity. The quantity of feces is somewhat variable, from 100 to 160 grams being the daily average, though in vegetarians this may be greatly increased. Much of the bulk of the fecal evacuations is composed of bacteria, of which Herter has estimated the daily number as 126,000,000,000, which explains the fact that patients who eat but little may pass considerable fecal matter.

There are many and various grades of constipation, and what might be considered constipation in some individuals would not be considered so in others, as it depends to a great extent on the **habit** of the bowels.

Constipation may be acute or chronic, and the former may be due to complete obstruction of the intestinal tract or to post-operative ileus and intestinal paresis. An almost complete obstruction may sometimes also result from kinks and angulations in the intestines brought about by enteroptosis, or from constricting bands which diminish the lumen of the canal.

Strictly speaking, constipation is not a disease, but the symptoms of various pathologic states. The latter may consist of gross anatomical changes in the rectum or other parts of the gastrointestinal tract, or merely of nervous inhibition due to stimulation of the splanchnic from central motion; yet there is always a cause even in those cases which are produced by irregular habits in not answereing the call of Nature, and a proctitis and dilatation of the rectum may be a feature. It is of the utmost importance to look upon constipation as a **symptom,** for the whole treatment depends upon this viewpoint.

The causes may be divided into mechanical, inflammatory, reflex and neuromuscular. The first two are by far the most frequent, and before ascribing constipation to a nervous cause, as neurasthenia or hysteria, it is much wiser to search for an anatomical reason, such as obstructions or inflammation.

Obstructions at any point of the gastrointestinal tract from the esophagus to the anus, and from any cause what-

ever, are capable of giving rise to the symptoms of constipation. Thus, cancers of the esophagus or pylorus nearly always produce small and infrequent movements, and one of the common symptoms of gastric dilatation with obstruction due to ulcer or any other condition is obstinate constipation. In such cases huge doses of cathartic medicine set up no action of the bowels whatever before gastroenterostomy, because these agents cannot reach the intestines.

Tumors or stenosis of any part of the intestines, when developed enough to obstruct the lumen will cause scant stools, not necessarily hard, but small in quantity. This applies to cancer or benign tumors of the hepatic and splenic flexures of the colon as well as those of the rectum.

The influence of adhesions and angulations of the intestines as a factor in constipation is becoming well recognized. I can go on record with the statement that from 15 to 20 per cent. of women coming to me for treatment of the gastrointestinal tract are sufferers from this condition.

It is extremely probable that adhesions affecting the intestines of slight or moderate degree, not sufficient to cause stenosis, are responsible for a disturbance of both their motor and secretory functions. In effect, therefore, careful investigation will demonstrate, in quite a large proportion of cases of so-called atonic constipation, that enteroptosis with moderate angulations or that slight adhesions are factors. This has been demonstrated by radio-graphs. I also believe that adhesions with narrowing of the intestinal canal, as well as enteroptosis with marked angulations, are frequent factors in the production of so-called spastic constipation, as I have seen the typic symptoms with the evacuation of small balls, or pencil-shaped stools, occur in the above-stated conditions.

Among the inflammatory causes of constipation we have chiefly to consider the chronic catarrhal inflammations of the intestine, particularly of the colon, sigmoid, and rectum. These are quite common, and even if not the primary faults, they at least promote its continuance. It has been noted that once low-grade catarrhal inflammation begins, then constipation occurs, while the constipation itself increases the inflammation, and so on.

The reflex causes of constipation most frequently emanate from the stomach in hyperacidity, appendix, female generative organs, gall-stones, hemorrhoids, anal fissures, etc.

Among the neuromuscular factors we have lead-poisoning, which sets up a sposmodic contraction of the intestines without the rhythmic relaxation necessary to normal peristalsis; and in another group is found asthenic states, as chlorosis, anemia and general weakness from any cause, which may decrease the peristaltic force of the neuromuscular mechanism.

Other important causes of indigestion are insufficient water with meals or between; an habitual diet containing but little residue, whereby the intestines lack their normal stimulus to contraction; a sedentary life which promotes intestinal stasis; irregular habits and failure to heed the inclination to empty the bowels when the "call" is felt, whereby the valuable influence of the subconscious stimuli to intestinal peristalsis is lost—all these exert their malign power in the inauguration and perpetuation of the constipated habit.

Clinically, constipation may be divided into (1) **atonic,** (2) **spastic,** and (3) **obstructive.**

Diagnosis. — Acute constipation should be diagnosed when evacuations

of the bowels cannot be obtained by ordinary measures, and when the accumulations of fecal contents produces active symptoms. This condition may mean absolute obstructions, and may require prompt and energetic measures to avoid a fatal issue.

Chronic constipation generally begins in the atonic form, and manifests itself by a simple inability to evacuate the bowels. It may be confidently diagnosed in those who have long eaten a concentrated diet with perhaps insufficient fluids, who have led an inactive life, whose muscular system is below par, or those who have from an unmethodical life been unable to empty the bowels regularly, or from carelessness and inattention have drifted into this unfortunate state. In this class may generally be included those who have depended upon cathartic stimulation, and whose bowels have become absolutely unresponsive to any ordinary natural or psychic influences.

The catarrhal stage is but an advance beyond the atonic condition, and its diagnosis is made possible by the presence of membranous mucus surrounding the scybala. We do not accurately know the real condition of the small intestine at this stage, but may assume that a catarrhal condition has gradually developed here also.

The spastic stage sets in when the secondary enterocolitis, or the continued abuse of cathartics has irritated the colon, so that a persistent hypertonicity of its musculature has developed.

In the atonic stage the patient complains of nothing more severe than constipation, a dull feeling, slight headache, inability to think quickly, and perhaps impaired appetite. Laxatives, or effective enemas, temporarily afford relief.

In the objective examination the stools will show normal consistency, and will be covered by the normal amount of mucous. The sigmoid flexure, and usually the transverse colon will be found filled with feces, and will give a doughy feel upon palpation. No special pain nor flatulence are present.

Inspastic constipation, the following differential symptoms will serve to diagnose it from the atonic.

(1) Colic is a frequent symptom, in slight cases flatulent colic, in severe ones, mucous colic. Nearly every case of chronic constipation that runs its course with attacks of pain belong to the spastic type.

(2) Laxatives are either not effective at all, or only so when given in tremendous doses, which produce griping and pain. Enemas likewise are not effective.

(3) Objectively, on palpation, the transverse colon and the sigmoid flexure are found to resemble a hard cord, about the size of the little finger, and is quite sensitive.

(4) Examination of the rectum discloses an empty gut, or else it is filled with small and hardened feces, about the size of the little finger. In atonic constipation the rectum is usually filled.

(5) The stool is of small caliber, sometimes ribbon-shaped, or even slightly guadrangular. It is frequently cut into short segments. In the atonic form the feces are voided in large solid lumps, of irregular shapes and sizes.

The obstructive form of constipation must be diagnosed either from physical examination or by means of the X-Ray. It may be reasonably supposed to be present in idividuals with decided enteroptosis, especially when constipation is chronic, and the movements are both difficult and uncomfortable.

Prognosis.—This depends on the

length of the habit, the underlying cause, and greatly on the intelligence and perseverance of the patient. After a constipation is overcome, unless the original causes are abated, it will in all probability return. The obstructive form is occasionally only amendable to surgical treatment, and the spastic type depends on the healing of the lesions which generally keep up the spasm. In the functional cases of habitual constipation, the patient may be cured and stay cured in the majority of instances, if he will strictly obey orders and exercise both patience and perseverance.

Treatment.—General treatment consists in teaching the patient the underlying causes of constipation, so that intelligent cooperation may be secured, and the subconscious powers employed to their best advantage. An outdoor life with exercise in plenty should be encouraged, and regular habits as to visiting the toilet should be specially insisted upon.

Diet.—The main idea is the ingestion of foods which contain a liberal proportion of residue, and, where there is no intestinal inflammation, even a certain amount of irritating particles, so the intestinal mucosa may be stimulated. A glass of cold or hot water should be taken upon arising, so as to inaugurate early peristalsis, and an abundance of water should be drunk at and between meals.

Among the articles of food which should be recommended are buttermilk, cider, lactone buttermilk, raw fruits, such as grapes, oranges, grapefruit, apples (unpeeled), figs, prunes, cranberries, pears, peaches, plums, gooseberries, currants, strawberries, raspberries, blackberries; cooked fruits, jams, honey, lemonade; vegetables rich in cellulose, as cabbage, cucumbers, spinach, greens, Brussels sprouts, cauliflower, green salads, Spanish onions, carrots, asparagus; syrup, sugar; salmon, sardines, herring; rye bread, Graham bread, brown bread, pumpernickel; fatty foods, plenty of buter, cream and olive oil. Oatmeal and some of the cereals are of value; also cornbread, whole wheat flour bread, and bran biscuits. Excess of potatoes and rice may constipate, and sweet milk, especially when boiled, is constipating to many. Whortleberries are constipating, and red wines, tea, chocolate and cocoa should be prohibited. Chicken and red meats may be given in moderation, but it should be remembered that the flesh proteins are nearly all consumed, leaving but little residue.

Hydrotherapy in the form of baths, fomentations, wet binders, and Priessnitz compresses are all of service, but are not often thoroughly carried out except at sanatoria.

Injections into the lower bowel possess a wide field of usefulness in constipation, though they are in some instances fearfully abused. For the acute constipation, numerous injections of warm water and soap suds may be employed, interspersing them with injections of cotton-seed oil.

In ordinary chronic constipation the use of small enemas of warm water, or one every day is infinitely preferable to the daily use of laxative drugs. I generally allow my patients to have a fountain syringe convenient, and to use a small enema, if, after an earnest effort, the bowels fail to move alone. I believe, and have taught for years, that two or three enemas of a pint each are better and safer than one large enema of several pints. The immense quantities of water which some advocate are dangerous, and liable to bring on intestinal paralysis.

In some cases with accumulation of hard feces in the rectum, and where the mucous membrane in dry and ex-

coriated in places with pieces of adherent fecal matter, and where the sigmoid and lower end of the colon are sensitive to pressure, exceedingly good results are obtained by systematically washing out the colon and rectum with one or two parts of hot water containing a few teaspoonfuls of sodium bicarbonate or borax or boric acid. The fluid should be introduced slowly, and at low pressure. Following each injection at night, from 2 to 4 ounces of warm cottonseed oil or olive oil may be injected into the rectum and kept over night. This by antiperistalsis will work up into the sigmoid and colon, where it will exert a softening effect on the feces and an emollient effect on the gut.

Glycerine suppositories, or those made of soap, are useful only when the initial contraction of the bowels is lacking.

As agar agar absorbs water readily and retains it, and as it is able to resist the action of intestinal bacteria, as well as the enzymes, its value in the treatment of chronic constipation was suggested. Its effect on the total mass of feces passed is noteworthy, for the agar agar easily retains water in the alimentary residue, prevents the formation of scybalous masses, so characteristic of spastic constipation, and lends a soft consistency to the whole stool.

This carbohydrate may be begun with heaping teaspoonful doses, eaten with milk and cream as with an ordinary breakfast food, and taken night and morning. The dose may be increased with impunity, if necessary. Generally regular movements will begin after the agar agar has been taken for three or four days. In the meanwhile, the lower bowel may be emptied by enemas. This preparation may be obtained in the market under the name "Regulin," which, though no better, is a convenient form of the agar agar. After the bowels move with regularity, the preparation may be gradually reduced until none is needed.

Psychotherapy.—I am confident in making the statement that the initial peristalsis is largely under the influence of the subconscious personality of every individual. If this subconscious power is trained to exert its effect at a stated exact time, and if this psychic agent is aware that its "still small voice" will be promptly heeded, the vast majority of intestinal musculatures will respond with clock-like regularity (for this power can mark the time), and the constipation can be cured by this means alone. This is no fanciful picture. It has been demonstrated time and again.

Drug Therapy in Constipation.—Before entering this subject, let me sound a warning note, for many cases of constipation have been caused by the unwise use of drugs. A real cure for constipation must first be based upon hygiene, diet, and the physiology of peristalsis; after that may come drug treatment.

The medicines needed for the relief and cure of this symptom may be divided into two classes in so far as rational prescribing is concerned:

First those needed to unload the bowel which has become filled. In such cases the proper drugs to use are the various purgative salts, jalap, colocynth, senna, mercury, castor oil and rhubarb.

Second, those that will so influence the intestines as to cause evacuations and produce normal activity—that is, drugs that will cure the tendency to constipation, rather than to give temporary relief. In these cases the indicated drugs are such as aloes, cascara, buckthorn, phenolphthalin,

sodium phosphate and podophyllin.

As some of these drugs have certain peculiarities in so far as their curative action is concerned, it may be well to consider a few of these, for the help it will be in rational prescribing.

When prescribing senna, colocynth, or jalap, remember that they are quite active purgatives, and that the reaction from their effects is liable to again cause the very ailment that they are being given for. They should not be used except when quite necessary. Rhubarb also should be prescribed with care, for its secondary effect is astringent. Four days of rhubarb medication is sufficient for a time, and a week should elapse before it is again employed. This drug is unsuitable for regular administration in constipation.

Another drug that is harmful for regular use is calomel, and it has probably been more abused than any other cathartic. For emptying the alimentary canal one or two times it is useful and efficient, but for continuous use it is pernicious.

Among the most dependable cathartics for constipation are cascara sagrada (rhamnus purshiana) and phenolphthalein. The former is best administered in the form of aromatic fluid extract (dose fifteen drops to the teaspoonful, or the fluid extract (dose ten to thirty drops). Phenolphthalein may be given in doses of 1 to 5 grains, seeming to act as a simple evacuant of the bowels. This drug is specially adapted for combination with calomel, and in quantities as small as 1-10 of a grain with an equal amount of the calomel, exerts a perceptible effect. It is the active constituent of many of the laxative proprietaries now so attractively advertised, and many preposterous claims are made for it.

The liquid preparations of petroleum are coming into popularity for internal administration for consipation, and with some reason. Liquid albolene, liquid paraffin, and other forms are now available, and by the addition of aromatics, are made palatable. These are suitable for the spastic type and the obstructive type, especially when the latter is not too severe. In conditions of enteroptosis or membranous constrictions of the bowels, the free ingestion of these hydrocarbons exercises a sedative, antispasmodic, lubricating, and evacuant effect. I usually direct from one to four tablespoonfuls at bedtime, regulating the dosage by the effect produced. In many instances the physician will find it advisable to reduce the dose after the bowels begin to move with ease and regularity, instead of increasing it, as required by some other cathartics.

A full diet, but without irritating residue is indicated in the obstructive form of constipation, combined with free administration of the liquid petroleum preparations. The ordinary cathartics are not so well suited. for, while they may empty the bowels, griping pains are generally suffered during their action and irritation follows in their wake. To keep the intestinal lumen well filled, so as to promote forward peristalsis, and at the same time to keep the intestinal walls well lubricated so the fecal current may move on with the least impediment, is both logic and good therapeutics.

"TONSILLECTOMY AND PREVENTION OF SUBSEQUENT HEMORRHAGE."

By Edward F. Parker, M. D.
Charleston, S. C.

No one with sufficient experience to justify an opinion can deny the superiority of the extra capsular tonsillectomy as now performed over the older tonsillectomy operation.

The ease with which the former is done, the apparently increasing prevalence of enlarged tonsils in children of the present generation and the number of operations performed in hospital and private practice must always make the subject, however commonplace, interesting. We must admit that the tonsils have some function more or less important in childhood at least, and we must admit that the indiscriminate removal of all enlarged tonsils is irrational. Of the real nature of this function, we are still ignorant and we have now no means of judging what tonsils should be removed except by individually weighing their relative possible value and the pathological conditions produced seemingly by their presence —if the latter are preponderant, tonsillectomy is advisable. The most frequent conditions justifying the operation are cervical adenitis, deafness, obstructed respiration, recurrent illnesses, poor health and toxeamias due to inflammation of the glandular tissues.

The methods of capsular removal of the tonsils vary but are all simple. The gland is firmly grasped with a forceps, dissected out of its palatal bed and completely separated with a wire snare. The chief difficulties are nausea owing to anesthesia and hemorrhage. General and local anesthetics both complicate in many ways the simplicity of the operation. Some hemorrhage during the operation is practically unavoidable, but it is generally satisfactorily controlled by pressure and styptic solutions; post operative bleeding is the most troublesome feature as it alarms the patient and parents and necessitates our quick response to a call at any time of day or night. In the past six months out of one hundred tonsillectomis in private practice, we have had troublesome bleeding in only one case, necessitating a visit. The method I suggest has no objections in my experience. After the removal of the first tonsil, the fossa is packed with gauze soaked in a saturated solution of tannic acid in alcohol and water, —in a few moments the second tonsil is removed and the cavity similarly treated. The throat is then carefully dried and both cavities are covered with very finely powdered Monsels salt from a DeVilbiss powder blower —the resulting thick, black coagulum does not seem in any way to retard recovery and I have never had any cause to regret its use.

With any method or treatment, we are liable occasionally to have troublesome, but seldom dangerous hemorrhage. The injection of adrenalin solutions certainly makes the bleeding during the operation less annoying. The discomfort, shock, pain, etc., following the operation is often considerable, but seem to be dependent on the anesthetic and temperament more than on the traumatism or amount of hemorrhage, and can seldom be correctly anticipated in children or adults.

The Patient.—My directions after the operation are as follows:

1. May vomit dark blood and be nauseated from anesthetic.

Read before the South Carolina Medical Association, Charleston, April 19, 1916.

2. Will have pain and perhaps pain in the ears, at times.

3. Will have fever the first and perhaps the second night after operation.

4. The morning following operation may not want breakfast.

5. Will have membranes on tonsil areas for a week or ten days.

6. Mouth and breath will smell badly for several days owing to patient's not wanting to swallow saliva, etc.

7. Wash mouth out with Listerine and water, equal parts, frequently or three or four times daily.

8. Give any soft liquid food for several days.

9. Children may not want to eat anything for 24 hours.

10. If in pain sufficient to warrant it, give half teaspoonful, or full teaspoonful (according to age) of paregoric in equal amount of Castoria and some water and repeat in an hour if not relieved, (especially advised the night after operation).

11. See that child gets some laxative if necessary, for a week or more after operation.

12. If patient vomits dark blood don't be alarmed, if fresh, phone.

13. Patient will suffer pain for several days.

15. If anxious or uncertain don't fail to phone.

DISCUSSION:

Dr. L. O. Mauldin, Greenville, S. C.

Mr. President, the question of the removal of tonsils is a very important one, especially to us men who do throat work. Of course the hemorrhage is probably the most important thing connected with its removal. I think though, the determination of whether the tonsils should be removed or not is equally as important. Of course, as Dr. Parker has already said, that hinges on the fact of the tonsil being a focus of infection, and sometimes it is really hard to say definitely that a tonsil should be removed. I believe he says it has been figured out that the streptococcus is the main germ of infection that we have to deal with in the tonsil, and we are liable to get systematic trouble if the streptococcus is present; that the streptococci are different and have somewhat different peculiarities. I think that Dr. Rosenau has figured that out probably better than any one else in this country.

In the Mayo clinic, I think it was, I saw some cases where the streptococcus had been the cause of a good many systemic diseases besides rheumatism. They found it caused a good many cases of endocarditis, a good many cases of acute nephritis, and some cases of anteropolismyelitis. In fact, they have reproduced that disease by taking tonsils from patients who have the disease and making a vaccine and injecting it in animals. Therefore the tonsil, when it acts as a focus of infection for these systemic troubles—and we know those diseases by their clinical symptoms—and if we have those diseases present it is a pretty good plan to look to the tonsil as one means of infection. Of course there are other means of infection.

As to hemorrhage: I believe it is divided into three parts: The primary hemorrhage, which comes during operation; the delayed hemorrhage happens in the first twenty-four hours after operation, but, as a matter of fact, delayed hemorrhage is generally a continuation of the primary hemorrhage; then the secondary hemorrhage is that which happens any time after the first twenty-four hours. Secondary hemorrhage very seldom happens after the second week from the removal of the tonsils.

I have known secondary hemorrhage to happen in one or two cases up to six days, and have not known it to happen later than that. I think

if we completely remove the tonsil we have not so much secondary hemorrhage as if we allow part of it to stay in. The reason for that, I think, is the fact that the little blood vessels contract better when the tonsil is completely eneucleated.

My method of removing the tonsil is practically that of Dr. Parker. I peel it out of its fossa with the wire snare.

I have gotten some primary hemorrhage with these operations and the way I control them has been by packing sterile gauze into the fossa for a while, and that will get most of the capillary hemorrhage stopped, and then I pack with dry gauze, and if I find any bleeding points I pick them up with Rosenheim's or Shoemaker's forceps, and I tie the bleeding portion off. It has in all cases controlled the primary hemorrhage without any secondary hemorrhage, but there have been cases where there was not the bleeding points in the primary hemorrhage; did not see any bleeding places or have to tie them off, then secondary hemorrhage came along and one case I had to put back on the operating table, and tie off the bleeding portion before it stopped. Tannic acid did not stop that, neither did other astringents.

Dr. D. L. Smith, Spartanburg, S. C.

The Doctor did not mention any prophylaxis or preventative, but I want to bring out one point. I find this among babies and children: Their mothers have been told by many physicians that it is not necessary to remove adenoids before the child is five or six years old. I think every child over one year old should be examined for adenoids, and also, the nasal tract should be kept cleaned out.

I would like to ask Dr. Parker how he differentiates between those tonsils that should be removed and those that should not be. The early removal of adenoids will prevent many diseased tonsils, as, if the nose is kept properly cleaned all the time in the first and second year of the child's life, one would not have so many adenoids and tonsils to remove.

Dr. E. W. Carpenter, Greenville.

Mr. President, I have tried to sit still, but I find that I cannot resist an inclination to discuss the paper.

Dr. Parker has presented a very interesting paper and he has opened up the whole field of focal infection.

In the matter of diagnosis and prognosis, we must remember the fact that while tonsils represent 50 per cent. of all cases of focal infection, yet there are 50 per cent. more that have to be accounted for, many of which can be accounted for by foci in the lungs and in the ten stories above the nasal cavities.

Cases of sinus infections are coming to our attention with much greater frequency than formerly because of increased efficiency in diagnosis, and wider comprehension of attendant symptoms.

As to the type of operation, I wish to say with emphasis that no one type is ideal for all conditions. The ideal operation, no matter what the technique, involves the principle of splitting the layers of the capsule, thus doing what is known as the Intra-Capsular operation. This prevents exposure of the muscles, contracture, and deformities of the pharynx, with their attendant evils.

I should like, also, to call attention to, and emphasize the necessity for thorough removal of the lymphatics between what has been called the base of the tonsil and the tongue. There is no snare or guillotine of any description which will thoroughly remove this structure. It must be carefully dissected out. If the lymphatic mass

is left in situ it serves as a nidus for future attacks, simulating tonsilitis, and gives trouble as a source of focal infection. These lymphatics also climb up and attach themselves to the walls of the tonsil fossae, giving the impression of an incomplete primary operation.

Dr. Baxter Hayne, Spartanburg, S. C.

Mr. President, I had a patient not a great while ago where I went to sleep on the job, and after I found out the cause of the trouble, I have made it a point to examine the tonsils in every case. This boy had normal diastolic and systolic blood pressure, albuminuria and very much thickened walls of the radial arteries, which is very unusual for a boy of that age; normal blood pressure. I slept on the job for about two weeks and finally called in a consultant, who immediately looked into the throat of the young fellow and found a very much diseased tonsil.

He had been having asthma for several years and it had lasted for sometimes two days and nights that he could not lie down; so this consultant advised me to have the tonsils removed, which I did, and the young man's urine cleared up in a very short time, and since the tonsils were removed he has only had one very slight attack of asthma; so that one case taught me to examine the tonsils of every case that I see.

His arteries are 50 per cent. more normal than when he came to me. The young man I consider perfectly well to-day.

Dr. R. L. Moore, Columbia, S. C.

Mr. President, it is an interesting thing—the relationship between the diseases of the tonsil and general systemic disease, and we are gradually approaching nearer to the truth that such diseases as rheumatism and certain forms of Bright's Disease which the Doctor has pointed out, and other infectious diseases, are contracted through the tonsilar tissue.

Dr. Wright, of New York, has made some interesting experiments to ascertain the function of the tonsil. He has sprayed a normal tonsil with a solution of carmin, and has made an application of some germs to the tonsils and eneucleated the tonsils three hours afterward. He has found that the carmin had gone into the substance of the tonsils, while the germs had gone only to the epithelial layers of the tonsils. Of course we understand that if the tonsil has become diseased by ulceration, the integrity of the tonsil has become destroyed and is a menace to one, and we know it is a very difficult thing, sometimes, to tell when a tonsil is diseased. It is a hazardous thing for a man just to look into a throat and say the tonsil is not diseased. Frequently we find the tonsil adherent to the pillars and on separating them a juicy material pops out and we find there is a toxin going on from this and a general disturbance.

Then, many times it is impossible to tell whether a tonsil has pus in it. We have a history, many times, of a tonsil which has burst and discharged, and a year or so afterwards, if we take a sharp curette and push it down into the tonsil, we are able to get out some pus.

Of course we know if the tonsil is diseased it is the portal through which the germs get into the system, through these lymphatics, and give rise to other matters; then the swallowing of this pus from these cheesy masses gets into the system, and it is possible they produce diseases of the appendix and of the gall-bladder and possibly some of these other conditions, and many times it is necessary to slay the tonsil and take it out.

Dr. W. .P Porcher, Columbia, S. C.

I am sorry I did not get here in time to hear Dr. Parker's paper. I prepared a paper on this subject and, with your permission, I will discuss that subject now and will not read the paper.

There have been a great many articles written recently on this particular subject, otherwise this discussion would not be in order, but so many opinions have been expressed as to whether the tonsil should be removed. I think it is in order.

In the first place, when we swallow the laryngeal box is brought up against the epiglottis. That leaves a clear canal for fluids or solids to go down into the gullet. On either side of this canal we find the anterior and posterior pillars. Just above we find this gland. When that is visible above the anterior pillars, it is a foreign body. The tonsil, as a visible organ, does not exist at all.

A few years ago Dr. Bosworth said, "There is no such thing as tonsilitis." He meant uncomplicated tonsilitis. These tonsils do not exist as a visible organ except when they become a pathological specimen of a foreign body. Often when there is only a bare capsule the follicles become diseased, a cheesy exudate comes up and is so offensive as to make you believe that your patient has atrophic rhinitis.

When that tonsil becomes so large as to stick out beyond the pillars, it becomes a foreign body. So, then, the question arises whether those tonsils should be removed or not, and you have only to decide whether the injurious effects resulting from the removal of that tonsil or the mutilation of the parts exceeds the danger of leaving it there; in which event it is well known it becomes a disease carrier, tuberculosis germs, etc. I have never seen anything but good come from the ablation of the tonsil. It is a foreign body, it is a disease carrier, and if the operation is properly done I have never seen anything but good result from it.

A few years ago a doctor said to me, "Have you ever seen one of your cases of tonsillectomy afterwards? Do you know what mutilation has been done to them?" Dr. Machuen of Philadephia thinks the mutilation is so great it should not be done. I do not agree with him. I think if the tonsillectomy is properly performed you will have no bad results.

I think the operation of selection, so far, is known as the Sluder method. You must pass your instrument back of the ramus of the jaw, and, in order to do that, you have to get the handle of the tonsil on the opposite side of the mouth.

Dr. Parker Closes.

Mr. President, my remarks were meant largely to suggest the value of the operation when the internists are trying to find out the cause of an obscure disease. At the same time, it is very hard to go along with them unless we see some very definite disturbance. For instance, I will take two very typical cases: A child had been having fever for a number of months without any definite cause, and would have a cervical adenitis occasionally. We removed the tonsils and I believe she has had no trouble since.

Another case, a little boy, who had a similar constant fever without demonstrable cause, had no symptoms that the tonsils were the source of infection. We removed the tonsils and his condition has not been improved. We must try to have some definite, conscientious reason for removing the tonsils. When e verything else is eliminated, in some cases we should

go ahead and remove them and hope for results to justify the operation.

ABSTRACTS OF AMERICAN PROCTOLOGY SOCIETY.

(Continued from September Issue).

Some Important Pathological Conditions About the Rectal Outlet: Lantern Slide Demonstrations.

By ranville S. Hanes, M. D., F. A. C. A., Louisville, Ky.

Tubercular ulcerations do not occur as frequently in the mucosa of the rectum and sigmoid as is generally believed. Amebic and various types of bacterial ulceration produce dysenteric symptoms that often lead to emaciation and exhaustion. Active tubercular ulceration is always accompanied by a decided increase in the temperature and pulse rate. These are not characteristics in other types of ulceration. In tubercular ulceration there is a history of constant and progressive symptoms while in amebic there is usually a history of improvement and relapses. Tubercular ulceration involving the rectum and sigmoid seldom yield to treatment. Amebic ulceration in this climate can be cured by one method or another.

Bacterial types of ulceration are usually very difficult to treat. Within the last two years I have found cauterization with the high tension electric spark to be a most valuable means of treatment.

Tubercular abscesses often occur about the rectum when patients otherwise show no evidence of tuberculosis. The abscesses and subsequent fistulae are characteristic in that there is a great tendency to undermining of the skin. The external openings are, therefore, large with a livid appearance of the surrounding cutaneous structures. They point to impending trouble which may be precipitated months or years hence. This being true it is of great importance that we direct the habits, hygiene, etc., of individuals thus afflicted.

Fistulae of long standing with one or more very small external openings with a history of an extensive abscess are very difficult to cure. From external evidences they appear to be very simple. Unusually the finger when introduced well into the rectum will be able to detect by careful palpation the hard indurated sinuses which often extend surprisingly high up by the rectum.

Internal fistulous openings rarely, if ever, perforate the rectal wall unless there is some pathology primarily in the rectal mucosa whereby its resistance is impaired. The internal openings of the fistulae are usually in the anal canal. The anal tissues are most always diseased before the abscess is formed, therefore, it is reasonable to suppose that the infection passes out through the diseased structures and is responsible for the abscess.

There are occasional fistulous tracts that extend up by the rectum to considerable heights and are very tortuous. It is difficult to follow these sinuses to their terminations when operating. When the wound heals and a small opening remains we may feel fairly certain that some part of the original fistula was not reached. It is then advisable to inject bismuth paste which will often effect a cure.

Pruritus ani is undoubtedly a local infection. The focus of the disease is below the pectinate line and at the anal margin. It has been my practice to remove the diseased tissues at the margin of the anus and from the emulsion of these diseased structures bacteria are cultivated and an autogenous vaccine administered to the patient. The operation with autogenous vaccine obtained in this manner gives decidedly the best results.

ABSTRACT OF PAPER.

Preliminary Report: Anatomical and Bacteriological Findings of the Anorectal Region.

Dr. J. Rawson Pennington, Chicago.

This preliminary report is submitted in lieu of my paper on "Indications for Making a Rectal Examination."

Today the question of "focal infection" is uppermost in the minds of the medical profession. Much consideration has been given to practically every point in the body from which focal infections may emanate except that of the anorectal region.

Experimental investigations show that not only Crypts of Morgagni, but what appears to be diverticuli are found also in this region. The Medical Research Laboratory of Chicago, to whom specimens were submitted for examinations, reports that these diverticuli are lined with stratified squamous epithelium. Also that streptococci, staphylococci, colon bacilli, and other bacteria were found in their tunics and sacs.

We have observed that local and constitutional diseases may be produced by injecting the various bacteria obtained from these diverticuli into animals.

I am investigating the value of these diverticuli as points of focal infection and their role as causative factors in hemorrhoids, fistula, constipation, arthritis, endocarditis and other acute, and chronic, and local and constitutional infections.

Some Observations on Hernia in Relation to Intestinal Stasis.

By William M. Beach, M. D.
of Pittsburg, Pa.

After reviewing the theories of Keith relative to nodal zones situated at different levels in the intestinal musculature the author says that:

1. We have tried to define intestinal stasis to be a physiologico-anatomic disturbance of peristalsis by an inhibiting influence through nodal zones of the myenterium, located in the aesophago-gastric junction, the duodeno-jejunal area, ileocaecal region and in the rectum. This demonstration in the laboratory must be verified clinically.

2. Anatomic distortions, as kinks, adhesions, ptoses, etc., lead to stasis by disturbing the ganglia controlling peristalsis.

3. Hernia is a frequent manifestation of visceral displacement concomitant with stasis.

4. Long truss wearing with great pressure tends to rectal disease.

ABSTRACT.

Intestinal Symptoms Due to Achylia Gastrica.

By Alois B. Graham, A. M., M.D., F.A.C.S.
Clinical Professor of Proctology,
Indiana University School of Medicine.
Indianapolis, Indiana.

In 5758 patients presenting gastro-intestinal symptoms, and in every one of whom repeated gastric analyses were made, a diagnosis of Achylia Gastrica was made in 378. This is about 6.5 per cent., or a ratio of 1 to 5. 100 were males and 278 females. The youngest was 17 years, the oldest 73 years. 60 per cent. were between the ages of 40 and 60 years. In 90 per cent the subjective symptoms were chiefly intestinal in character. The bowels were reported regular in 38; constipated in 112; loose (diarrhoea) in 142; irregular in 86. Diarrhoea was the most frequent symptom and was present in 37.5 per cent. of the cases. Description of three groups of cases. Description of the stools which were at times quite characteristic. Rectal symptoms rarely reported. Internal hemorrhoids found in every case. Rectal examination of no value, except that of exclusion, in determining the cause of the intestinal symptoms. In cases where constipation was

chief symptom, there was not anything of special interest.

There was no return of the gastric secretion in any of the cases. The course of Achylia Gastrica is a protracted one. Under proper therapy the prognosis, as to fairly good health, is excellent.

Diet alone in the severe cases of diarrhoea was not successful. Astringents and intestinal irrigations were unsuccessful. Hydrochloric acid and pepsin in sufficient dosage is rational therapy and the only one which gave anything like satisfactory results. In some cases diet and hydrochloric acid failed. In these cases a nervous element was present as the administration of bromides in suitable dosage produced most excellent results.

Patients are comfortable as long as they continue treatment. If discontinued even for a brief period, there is a recurrence of the diarrhoea. These patients should be correctly informed as to the prognosis; namely, that as long as there is evidence of an absence of the gastric secretion, just so long must they adhere to a rigidd iet and take hydrochloric acid and pepsin.

Observation on Fissure in Ano.

Rollin H. Barnes, M. D.,
Editor of The Proctologist and Gastroenterologist, St. Louis, Missouri.

The author considers fissure as an ulcer and believes that traumatic causes are not true etiological factors in the production of this trouble but that is necessary that the tissues becomes inflamed and hence fraile and easily torn in order that fissure be formed. He believes that catarrhal inflammatory conditions are frequently the result of an excessive carbohydrate diet and sometimes an excessive fat diet.

In the treatment of fissure he recommends paliative treatment by correcting the diet with reference to the excesses of carbohydrates and fats and placing the patient on a proteid diet for a time. When operation is necessary he believes that the object should be drainage rather than paralyzing the muscular fibers. He also advocates the use of a small enema before defecation in order to avoid irritation from the stool. It is very important to keep the wound clean by hot sitz baths and the hot enema, in order that any foreign substance may not remain in the wound.

ABSTRACT.

Malignant Transformation of Benign Growths.

By Frank C. Yeomans, A. B., M. D., F. A. C. S., Adjunct Professor of Proctology, N. Y. Polyclinic Medical School & Hospital, New York City.

The benign tumors of the colon and rectum considered were of the polypoid typ, solitary polyp, multiple polyposis, multiple adenomata and villous tumor. All originate from the intestinal size, form and the relative amounts of glandular and fibrous tissue present.

The writer cites the theories of origin of multiple adenomata as advanced by Myer, Liebert and Schwab and G. Hauser and H. C. Ross's views on the formation of benign growths. Yeomans thinks these tumors inflammatory in character and notes the frequent history of colitis or dysentery in these cases, intestinal parasites as casual in others and the positive evidence of the role of irritation as furnished by therapy, colonic lavage, or colostomy and irrigation benefitting some patients and curing others. He reports a case of multiple adenomata in a man, aged 30, colostomized in 1913, with marked benefit. Many tumors have disappeared, the remainder have retrogressed and the patient is work-

ing regularly. There is no evidence of malignant change.

That benign growths become malignant is beyond cavil but its cause involves the same enigma as the cause of cancer itself. The writer cites the work on neoplasms of Waldeyer, Adami, Cathcart and others, as well modern research on the transplantation of tumors and the parasitic theory of their origin. He concludes: "All that can be stated positively is that cancer begins as a small local process; that it excites no reaction in the blood whereby a diagnosis can be made; that the individual cancer cell is the parasite of cancer, and whatever eventually explains the origin of cancer will also explain the transformation of a benign into a malignant growth."

Yeomans reports the transformation of a simple adenoma into an adenocarcinoma in a man, aged 76, who had rectal bleeding of 8 years duration, progressive constipation and a tumor that in recent years could not be reduced within the rectum. The tumor, 3 1-2 by 2 inches, was attached just within the anal verge. It was removed under local anesthesia and both clinically and histologically was adenocarcinoma.

Villous tumor or adenoma tends to recur in malignant form so should be extirpated early, thoroughly and radically.

Multiple adenomata are the most important and serious type of benign growth of the intestine. Their usual site is the lower colon and rectum. Clinically they are malignant from diarrhoea, hemorrhage, etc., and if neglected over 40 per cent. become actually malignant. Improper local treatment, as snaring, curettage and cauterization is followed by malignant recurrence in a large proportion of cases.

This curative, operative procedure indicated is enterotomy, either in the colon above the growths, or in the terminal ileum when the entire colon is affected. If the tumors disappear, the enterotomy may be closed. If they persist, after prolonged irrigation and the patient's general condition warrants it, partial or total colectomy is indicated with implantation of the ileum low down into the sigmoid, the operation being performed either in one or preferably in two stages.

The Treatment of Hemorrhoids by a New Method.

E. H. Terrell, M. D., Richmond, Va.

The author presents a simple, safe and efficient method of curing selected cases of Hemorrhoids by the injection of quinine and urea solution. During the past two years 127 patients have been treated by this method with only one recognized failure. Injection of quinine and urea in solutions of from 5% to 20% strength produces starvation and atrophy of the hemorrhoids. The series reported includes only uncomplicated internal hemorrhoids. The results of the treatment of 127 patients justify conclusion that the method is simple, safe and effective in properly selected cases.—Abstract.

Abstract on the Etiology of Vaccine Treatment of Pruritus Ani.

Louis J. Hirschman, Detroit, Mich.

Hirschman presented a preliminary report of his work on the bacteriology of pruritus ani as based on the original work of Murray at Syracuse. The work of H. C. Ward, bacteriologist, in conjunction with Hirschman's work shows that the streptococcus faecalis was present in the twenty-five cases, but the vaccine treatment in these cases, especially that of the autogen-

ous vaccines, has resulted in important or systematic cure in but four cases, while the treatment of the surgical lesions present, or by dietary, or hygienic measures, has resulted in relief or cure of all the remaining cases.

Abstract of Paper Entitled Further Observation on Prurtus Ani. Its Etiology and Treatment.

(A sixth report based on results of original research.)

Dr. Dwight H. Murray, of Syracuse, N. Y., read the sixth annual report of his original research work on Pruritus Ani and Vulvae adding reports of 25 cases to the former series of cases, making 123, the bacteriology of which shows 95% of the cases a streptococcic infection as the etiology for these troublesome conditions. He stated that his claim, that the streptococcus fecalis is the etiology of Pruritus Ani, is now confirmed by many leading physicians, throughout the United States, who have been investigating the subject.

He finds from the experience of this past year that far better results are obtained by the use of autogenous vaccines with more than 1000 million dead germs to 1 C. C.

He states that not one of the cases of Pruritus Ani and Valvae Pruritus Scroti in the 123 cases have had diabetes and, as a result of this, he questions very strongly whether diabetes is ever the cause of these conditions, unless as a complication, and under such condition there would be a general pruritic condition of the skin.

Last year, in his fifth report, he described cases of Pruritus Ani that did not show improvement under the administration of the autogenous, streptococcic vaccine. These cases were later found to have a staphylococcic infection as a complication and when an autogenous staphylococcic vaccine was administered with the autogenous, streptococcic vaccine improvement resulted. He has found proof of this same condition during the past year and believes that these cases show a characteristic whitish appearance of the skin in spots, particularly around deep skin fissures.

He also found further proof of one of the conclusions, in a former paper, i. e., where there is a rectal pathology with Pruritus Ani, plus a skin infection, that an operation for relief of these conditions will cure the rectal pathology, but will not cure the Pruritus Ani. If the streptococcic skin infection does not exist the operation will be very sure to cure Pruritus Ani.

During the six years that Dr. Murray has been doing this work he has never had as prompt and satisfactory results from treatment as during the past year. In his report of the present condition of patients treated during the past five years, he shows that practically all of the patients have retained a part of the benefit originally received and a large majority of them consider themselves cured. Time will give proof of this.

While some of the cases still have a little itching from time to time, they state that it is very easily controlled, by simple methods.

Dr. Murray is more firmly convinced than ever that operations for the cure of Pruritus Ani, such as Balls operation and modifications of it, are absolutely contradicted and should never be performed.

"Ano-Rectal Injuries."

Samuel G. Gant, M. D., L.L.D.

The author stated that while the rectum is protected by the buttocks, and bony structures, it is frequently injured by external trauma, expulsion

of hardened feces, and foreign bodies, swallowed or introduced through the anus, such wounds being contused, lacerated, incised or perforated.

Laceration of one or all of the rectal coats, results from careless examinations, introduction of imperfect syringe nozzles, bougies, proctoscopes, or other instruments.

Perforating wounds are caused by bullets, knife thrusts, and pointed objects that have been swallowed, or introduced into the rectum, except when due to specific ulcers or cancer.

Recently many pneumatic rectal ruptures, the result of compressed air introduced through the anus, in a spirit of fun, have been reported.

The injection of carbolic acid, into hemorrhoids is responsible for extensive ano-rectal injuries.

Symptoms: The chief manifestations of superficial ano-rectal injuries, are bleeding, sphincteralgia, frequent micturition, and painful defecation; symptoms that are exaggerated, when wounds are extensive.

Infected wounds are characterized by a chill, temperature, throbbing pain, swelling, and a thick yellow discharge.

In extensive injuries of the upper rectum, hemorrhage is profuse. There is shock, the patient collapses, and soon exhibits symptoms of peritonitis, when the peritoneum is involved.

Diagnosis: The diagnosis of ano-rectal injuries, is easy, when the nature of the accident has been learned, the degree of hemorrhage, bruising and swelling have been noted, and the buttocks, anus, and rectum have been inspected, and digitally and proctoscopically examined.

Treatment: Minor injuries take care of themselves, while extensive injuries may require simple or complicated treatment.

Incised wounds are sutured, under aseptic conditions.

Contused, lacerated and pneumatic injuries are drained at one or more points, following irrigation, and the removal of ragged edges and necrotic tissue. Subsequently they are treated by drainage and topical applications, as fistula wounds.

Injuries of the bladder and urethra are immediately closed by suture when feasible, but if not, the bladder is drained, and the wounds here and in the rectum are permitted to heal by granulation.

Small recto-vesical rents are sutured, but where the rectum or Sigmoid is extensively injured, the bowel is resected, or an artificial anus is established.

Recto-vaginal tears, are repaired by suturing the vaginal before the rectal side of the wound is closed.

The Consideration of Rectal and Colonic Disease in Life Insurance Examinations.

By Alfred J. Zobel, M. D.
Fellow of the American College of Surgeons; Chief of Department of Rectal Surgery, San Francisco Polyclinic and Post Graduate School, San Francisco, California.

All important data concerning the vital organs is obtained by a medical life insurance examiner by direct examination and by precise methods. On the other hand life insurance companies evidently do not attach much importance to the condition of the rectum and colon—not to mention the rest of the alimentary canal—for they seem willing to assume that these organs are free from disease solely from the favorable answers given by the applicant to routine printed questions asked by the examiner. That this is a fallacy, inasmuch as it paves the way to the acceptance of poor risks, and occasionally to the rejection of a good one, is shown in this paper.

Applicants almost invariably deny having or ever having rectal or colonic disease. The writer thinks that perhaps the main reason for this general denial is the ease with which these affections can be concealed from the examiner, unless he makes an examination.

The average individual knows little about his ano-rectal region, and unless there is severe pain or itching, alarming bleeding, or annoying dysentery, he thinks it of little importance and unworthy the attention of either himself or the examiner. The rectal surgeon often sees individuals who look and feel in the best of health, (outside of "a little attack of pile"), yet who are found victims of well advanced malignant disease of the rectum or colon. Unless a rectal examination be made such a person could easily pass a life insurance examination.

The examiner should look out for those little fistulous tracts which cause no pain and discharge but little secretion, as they are frequently the primary manifestations of tuberculosis, and may appear in those who are otherwise apparently healthy. A severe stricture of the rectum may be present in a man outwardly perfectly healthy and insurable. If no history of his condition was volunteered such a person could pass an examination unless the rectum was examined.

If a history of hemorrhoids is secured, or if on examination, it should not be forgotten that although their existence does not constitute a good cause for rejection, they often accompany liver, spinal cord, genitourinary and uterine disease.

In cases where a suspicious anemia is found to be due solely to bleeding from hemorrhoids, these individuals could be conserved to the life insurance business if put in the way of regaining their health so as to become insurable.

If a rectal examination is made the condition of the genito-urinary organs in the male can be investigated at the same time, while in the female accurate information can be obtained about their pelvic organs without subjecting them to a vaginal examination. At the present time insurance companies do not demand an examination of the female generative organs but accept their answers to the questions whether they ever had any uterine disorder, and if pregnancy now exists.

In conclusion, the suggestion is offered that medical examiners should lay more stress upon the questions regarding the condition of the bowel and rectum. They should enquire carefully whether there is or has ever been a sanguinous, purulent or mucous discharge from the rectum. A history of chronic constipation or of diarrhoea should be considered worthy of further investigation. A rectal examination, both digital and instrumental, should follow if there is need therefor, or whenever there is the slightest suspicion that by it something may be revealed.

That medical examiner is the most "efficient" who not only secures his company from poor risks but also saves it business which otherwise would be lost. The utilization of rectal examination helps attain "efficiency."

Spasmodic Stricture of the Rectum.

By Louis J. Krouse, M. D., F.A.C.S., Cincinnati, O.

Dr. Krouse says that spasmodic stricture of the rectum was often called phantom stricture on account of its imaginary existence.

He makes the statement that in the early part of the last century it was more frequently diagnosed than later

on. At the present time, the opinion regarding the existence of such an affection is equally divided between those who are firm believers and those that doubt its existence.

After quoting the statements of various authors well versed in rectal pathology, he expresses his own opinion in its existence and reports several cases. He also makes the statement and agrees with a few writers who believe that spasmodic stricture is often the forerunner of the more serious diseases of benign stricture of the rectum. He reports several cases.

He claims that spasmodic stricture is not a disease but only a symptom of some other disease located in the rectum or in an adjoining organ.

His conclusions are:

First, that it is not a common affection.

Second, that it is easily detected on digital examination.

Third, that it often terminates in an annular fibrous stricture.

Fourth, that it involves the lower Houston valve.

Fifth, that a rectal ulcer is the most important etiological factor.

Sixth, curing the ulcer in its early stage lessens the chances of the development of an annular fibrous stricture.

Syphilis regarded as a contagious disease as other exanthemata is characterized by its chronicity and virulency. The only exception to its point of inoculation being confined to tissues covered by squamous epithelium, is within the rectum.

Its frequency in the rectum and anus is not realized and, in consequence is not recognized by the profession. Its relationship to fistula and stricture is emphasized, and the importance of tuberculosis in these two conditions minimized. The successful treatment of fistulae is proverbial. The possibility of stricture, resulting from secondaries later in life, suggested.

ABSTRACT.

Acute Angulation and Flexure of the Sigmoid a Causative Factor in Epilepsy. Report of Nine Cases With Four Recoveries.

By W. H. Axtell, M. D., A. M.
Bellingham, Washington.

Review: In December, 1910, I published my first list of thirty-one cases, eight private and twenty-three Asylum cases; in August, 1911, a further report on ten private cases with three recoveries, this included three additional Asylum and two private cases, making in all thirty-six cases. The three reported cured have remained so for a period now of over four years. One additional case (No. 4) of the original list of ten private cases has had no return of the convulsions since ceasing treating two years ago, treatment seemed at the time to increase the irritation as reported.

Additional Cases: Since last report I have had nine additional cases with four of them remaining free from seizures for from one year to two and a half years, making in all forty-five cases reported with eight recoveries to date.

Observations: From my observations I am convinced that those who acquire epilepsy after the fifteenth year are more amendable to successful treatment than when commencing earlier in life. In my judgment surgery can give but little relief except where there is a definite history of inflammatory adhesions holding the angulations and flexures, in fact, the condition of fecal stasis precludes surgery of the colon until the condition is first relieved, which when so relieved a prime factor in the production of the trouble is eliminated. A new and undescribed cause of the in-

testional ptosis which is so generally present in these cases is the separation of the Recti Muscles, which are so essential to a thorough evacuation of the colon and for the support of the abdominal organs.

The essential failure of treatment of these conditions lies in the fact that so few recognize the true condition, and, if the condition is recognized, there is not sufficint persistence in relieving the condition, or an ignorance as to the amount of material the colon holds and as to when it is well emptied, that is the reason so many fail and as a result mutilating surgery is resorted to without getting results commensurate to the gravity of the surgery resorted to, the first intimation of the true condition is found upon opening the abdomen, then details are carried out which should have been used in the first instance, then surgery would be unnecessary.

The Relation of the Roentgenologist. To the Proctologist.

By Walter I. LeFevre, M. D., Cleveland, O.

This paper calls attention to the advancement made in Roentgenology in recent years, and gives statistics as to the men devoting their entire time to the subject. He also mentions the increase of special literature upon the subject, as well as the immense manufacturing interests which have sprung up.

The conclusion is drawn that to the proctologist the X-Ray is of value just in proportion as he is interested above the sigmoid flexure. Below this point the proctoscope gives direct information.

Because of the expense and the refinements of technic the writer feels that the protologist should work in conjunction with his friend the Roentgenologist.

Position For Sigmoidoscopic Work.

By Donly C. Hawley, A. B., M. D.
Burlington, Vermont.

A majority of writers express a preference for the knee-chest position, while a minority prefer some other e. eg. Hanes, Sims, or the exaggerated lithotomy position.

Before the days of the pneumatic sigmoidoscope the position was of necessity such as would admit of inflation by atmospheric pressure. Here the knee-chest position was undoubtedly the most satisfactory.

The knee-chest position is trying and disagreeable for the patient and not easy nor always convenient for the operator.

Its use is frequently attended with embarrassment and fear on the part of the patient.

With the pneumatic tube the old method may be done away with.

Place patient in left lateral prone position with left arm drawn out behind back, the patient lying well over on left chest and stomach, the knees flexed, the right more than the left and placed above and well over and beyond the left on the table and with the back concaved as much as possible.

In this position the abdominal muscles are relaxed, while in the knee-chest position they are apt to be contracted.

In a majority of cases the instrument may be passed easily and quickly over the brim of the pelvis and into the sigmoid colon as far as required or to its full length.

This method not advocated exclusively, but a more thorough trial is urged.

Tuberculosis Cutis Ani.

By D. C. McKenney, M. D., F.A.C.S.
Buffalo, N. Y.

An interesting case of tuberculosis of the anal skin is reported.

From the clinical study of the case Dr. McKenney infers that the injection started from the anal canal rather than in the skin around the anal orifice. An active respiratory infection, associated with aphonia, seems strong evidence that the injection was carried in the feces to the anus. Two photographs of the local condition were presented.

A Brief Report of Two Cases of Anal Herpes Zoster.

By Louis H. Adler, Jr., Philadelphia, Pa.

Dr. Lewis H. Alder, Jr., stated that cutaneous legions about the anal region are by no means unusual, and that the frequency of their occurrence is much less than one might reasonably expect from the function of the part, its more or less constant contact with germ-laden feces; the frequent congestion to which it is subjected and the attrition of the nates and adjacent structures induced by walking, etc.

That in this connection a very unusual condition, so far as his experience went, was Anal Herpes Zoster, of which he had only seen two cases in his practice, both being in young women, one of whom thought she had contracted some venereal trouble from using towels in a public bathing establishment.

That in both instances, the eruption was preceded for several days by a mild febrile disturbance, with burning pains in the anal region; at times the sensations were neuralgic in character. That in both patients, the lesions were confined to a definite area, affecting only one side of the anal cutaneous surface; that the eruption in neither case was very extensive nor numerous and there was no history of previous attacks or of similar trouble elsewhere.

That the vesicles in both cases followed the usual course of Herpes Zoster occurring elsewhere, the liquid they contained was clear, translucent serum, at first; which gradually became cloudy and later puriform. That they never evinced any tendency to rupture and in the course of ten days or two weeks, they gradually dried to thin yellowish or brownish crusts, which shortly dropped off, after which there was left a reddish spot, covered with the epidermis; and that these spots were very slow in disappearing.

That the local discomfort in both cases was not lessened on the appearance of the eruption: but more or less burning was experienced, until the eruption had practically disappeared and that in one case it continued for several weeks afterward.

That the pain was so severe, in one case, that family physician found it necessary, on several occasions to prescribe an anodyne.

That the treatment in each case was similar, internally liquor potassi arsenate, six drops was prescribed, locally, the parts were cleansed with a two per cent. creoline solution and freely dusted over with borated talcum powder. Over this a wad of absorbent cotton was applied and kept in place by an appropriate bandage.

ABSTRACT.

Dr. William H. Kiger, Los Angeles, California, reports six cases of Pruritis Ani treated by the vaccine method as suggested by Murray. Cultures were taken from the skin at the anal junction. In every instance, Streptococcus Haemolyticus found. No local application of any kind was used. The results are attributed to Vaccine treatment alone. He discredits the use of stock vaccines, and suggests the use of Autogenous Vaccine only. Considers the focal infection as a prime factor in an etiologic way. Also he

reports three cases evidently due to an infection from abscesses at the roots of teeth. He says that all of the cases reported had Pyorrhea, and suggests a thorough examination of the teeth, together with an X-Ray picture of the jaw. He believes that a reinfection often takes place.

SOCIETY REPORTS

COLUMBIA, S. C.

Minutes of the Columbia Medical Society, August 14, 1916. The President Dr. Julius H. Taylor called the meeting to order. The Secretary, Dr. Edythe Welbourne, being absent, the minutes of previous meeting were read by Dr. Lindsay Peters.

Dr. S. E. Harmon reported 3 cases of purulent infection of the gall bladder, one with perforation terminating fatally. In each case he operated in two stages, first cofferdaming the gall bladder with gauze and later opening and draining it without anesthetic.

He also gave account of several cases in very young children operated upon because of symptoms of intestinal obstruction. At operation no obstruction was found, and in all the cause of death remained unexplained. These reports were discussed by Drs. Barron, Weston, McIntosh, the latter suggesting the symptoms in the cases of the children were due to paralysis of the intestines by some toxin of unknown origin.

A case of Chronic Anterior poliomyelitis, or progressive muscular paralysis was reported by Dr. N. B. Heyward.

Dr. Sandy in discussing the case mentioned that recent ideas of the pathology of anterior poliomyelitis were that instead of the anterior horns of the spinal cord alone being involved lesions, might involve any or all structures of the cord and the meninges of the cerebrum as well.

Drs. Fishburne, Wm. Weston, T. M. DuBose, Jr., and F. A. Coward gave accounts of their observations of epidemic anterior poliomyelitis in New York City. In the discussion which followed Dr. McIntosh asked, "Why, if persons in contact with the disease can become carriers, might not nurses and physicians themselves be a means of dissemination of the virus?" Dr. Boyd spoke of the importance of efforts to prevent deformities during convalescence. Dr. Barron referred to a case that he had observed. Dr. Harmon made a plea for effectual quarantine.

Under the head of miscellaneous business Dr. Coward reminded the Society of the resolution of the State Association to assess each member 25c for Norwood Memorial Fund. There being no other business and no committees to report the meeting adjourned.

Dr. Lindsay Peters,
Secretary, Pro Tem.

SPARTANBURG COUNTY.

At the regular monthly meeting of the Spartanburg County Medical Society held on August 25th, two papers, one on Puerperal Case by Dr. J. J. Lindsay and the other The Case of Pregnant Women by Dr. W. B. Lancaster were very generally discussed by a number of those present and as the attendance was unusually large this was one of the best meetings held for several months.

Several visitors were present at the meeting. Drs. C. L Stevens, Campobello, and A. M. Nelson, Spartanburg, R. F. D., were elected to membership.

The censors reported several physicians practicing without license and the society requested that the censors take proper action in the matter.

L. Rosa H. Gantt,
Secretary.

ANDERSON COUNTY.

During the Summer months the Anderson County Medical Society met only once each month and despite the warm weather our meetings have been well attended and interesting programs have been carried out.

At the July meeting the subject of Focal Infection was taken up and the following papers were read:

1. Oral Sepsis—Dr. W. F. Ashmore.
2. The Teeth and Their Diseases as Sources of Infection—Dr. J. Levis Sanders, Dentist.

These papers were very generally discussed and many valuable points were brought out.

The August meeting was especially well attended. We were glad to welcome home our former member, Dr. R. Lee Sanders, of the Mayo Bros. Hospital, he being here on a short vacation. Dr. Sanders favored us with a most excellent talk on Goiter. This was both interesting and instructive to all who were so fortunate as to hear Dr. Sanders.

Olga V. Pruitt, Sec.

An Energy Producing Food

It is of vital importance in severe cases of marasmus and other malnutrition disorders in infants, that the food given be easily and completely assimulated, supplying at the same time sufficient Energy and Body Heat.

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THE ORIGINAL

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The diabetic patient offers a problem of no small importance to the practicing physician of today.

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Under the favorable conditions afforded by institutional management and the applications of the up-to-date methods, even grave cases may be brought under control and often with surprising promptness. Ordinary cases are quickly made sugar free and cases are very rare which may not be substantially benefitted by the efficient application of systematic treatment under conditions of perfect control.

A special advantage of institutional treatment in these cases is the opportunity for educating and training the patient in dietetics and in eating habits adapted to his indvidual requirements, so that when he returns home at the end of a few weeks he is able to establish and maintain a suitable regimen by which he may, with the aid of careful watching by his family physician, remain sugar free for an indefinite period.

We will be glad to send further information concerning the Battle Creek method in diabetes to any physician.

The Battle Creek Sanitarium

BOX 225, BATTLE CREEK, MICHIGAN.

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The Journal OF THE South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.

Annual Subscription, $2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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PUBLIC HEALTH.
J. LaBRUCE WARD, M. D., Columbia, S. C.

EYE, EAR, NOSE, AND THROAT.
E. W. CARPENTER, M. D., Greenville, S. C.

EDITORIAL

Dr. Neuffer, Elected to the House of Representatives

On October 10th Dr. G. A. Neuffer, of Abbeville, retiring President of the South Carolina Medical Association, was elected to the House of Representatives. This will be gratifying news to the entire profession of the State.

Dr. Neuffer's views on progressive Public Health measures are well known. Much of his Presidential address at the Charleston meeting in April being devoted to State Medicine. We are confident that Dr. Neuffer will be heard from in no uncertain manner in regard to Public Health in South Carolina. Dr. Neuffer has had large experience in business affairs generally, and has executive ability of a high order. As a Parliamentarian we doubt not he will be on familiar ground and prove an invaluable member of the State Legislature.

Rally Day for the County Societies in November.

The Secretary has written to the President and Secretary of all the County Societies in the State, urging a Rally Day during the month of November. Many organizations have similar occasions in the month of October, but it is probable that November will suit the profession in this State better.

We have noticed a gradual increase of interest in Medical Society matters for many months, and think it wise to make a special effort during November to promote the "get together" spirit.

The financial situation has practically cleared up. A little extra effort

now will bring quite a number of the members, who are in arrears, back into the fold, and new ones will be induced to join.

A good dinner, an invited guest, especially an officer of the State Association, by all means the Councilor of the District, some interesting clinics, a personal letter or phone message to every member or prospective member and success is assured.

Titles of Papers Wanted at an Early Date by Scientific Committee.

The Scientific Committee, who will have charge of the program for the next meeting of the State Association, consists of Dr. C. C. Geer, Greenville, S. C., Chairman; Dr. K. M. Lynch, Medical College, Charleston, S. C., Dr. E. A. Hines, Secretary, Seneca, S. C.

This committee wishes to have in hand immediately the titles of papers proposed to be read at Spartanburg, in order that symposiums may be arranged as far as possible along certain lines.

For instance, it is possible that a symposium on Public Health would be acceptable, another on Infant Mortality. It is clear that the program should be short or else all the papers can not be read. Probably thirty papers will be sufficient and yet the committee wishes to accomodate all who are seriously considering presenting papers and especially if they can be made to conform to the symposium idea being worked out.

Titles should be sent to the Secretary.

Norwood Memorial, Necessity for Prompt Action.

We have received the following letter which is self-explanatory. In this connection we would urge immediate action by the county societies, as required by the State Medical Association.

Columbia, S. C.
Nov. 22, 1916.

Dr. E. A. Hines, Sec.
S. C. Medical Association,
Seneca, S. C.

Dear Doctor Hines:

As the time for the annual meetings of the County societies is rapidly approaching I would be glad if you would remind the Secretaries of the resolution passed at the last State meeting in Charleston last spring, assessing every society twenty-five cents per member for the Norwood Memorial. So far only one society has sent me a check. We have selected a design and given the contract for the stone which is now in process of construction and will be in place within 90 days.

You will see then the necessity for final action by our members.

With best wishes, I am,
Fraternally yours,
(Signed) F. A. Coward, M. D.
Chairman of Committee on
Norwood Memorial.

Hospital Standardization for South Carolina.—Greenville's Opportunity.

One of the most acute problems before the profession of this State now is the standardization of Hospitals. It is well known that this state has a standing committee of which Dr. Robert Wilson, Jr., of Charleston, is Chairman.

There are a number of communities at the present time directly concerned in the establishing of new hospitals or the improvement of those already built. For instance, the City of Greenville recently voted $100,000 in bonds for hospital purposes. In the City of Charleston approximately

$100,000, by bequest of one of the citizens, has been turned over to the Medical profession for the improvement of the Riverside Infirmary. Marked improvements have been in progress in the past year at Chester and Florence. A new hospital has been opened at Westminster, Oconee County, and we understand plans are well under way for a splendid institution at Aiken. There are probably other communities deeply interested in the Hospital proposition.

A poorly equipped hospital will no more live in the immediate future than the poorly equipped Medical College. Influences at work both within and without the State will see to it that low grade hospitals shall cease.

The American Hospital Association at its meeting in Philadelphia the latter part of September, went on record in favor of pushing a campaign for better equipped hospitals and will take active steps to inaugurate same. The American College of Surgeons, conjointly with the Carnegie foundation, has already under way an active investigation of the hospital facilities of this country. The American Medical Association likewise has undertaken a similar campaign. The United States government is at the present time pursuing an investigation of the hospital preparedness of every State in the Union.

The Hospital Committee of South Carolina has not as yet outlined the minimum requirements for a Standardized Hospital, but doubtless will do so in the near future. The most exhaustive investigation of any state in the Union has been made by the New Jersey Committee, and reported at the annual meeting of the New Jersey Society, June 20, 1916. We take the liberty of copying this excellent report from the September number of the Journal of the Medical Society of New Jersey.

We believe that the City of Greenville has a great opportunity, indeed a duty to the state at large, in the expenditure of the funds recently voted for hospital purposes, inasmuch as this will be a general hospital under the control of the city. The time is rapidly approaching, indeed is now here, when every hospital should not only take care of the sick, but foster the education of its medical men. Ample provision should also be made for interns.

In all probability, in a very short time, our State Board of Medical Examiners will take the same action that has been taken in New Jersey, Pennsylvania and a number of other states in demanding a hospital internship before the applicant shall be eligible for a license.

We wish to call special attention to the necessity of providing for scientifically conducted autopsies. We believe that the Mayo Clinic has been able to secure autopsies on at least 75 per cent. of patients dying in St. Mary's Hospital. It goes without saying hat those in charge of the building of Hospitals should first of all make ample provision for this work. In other words, a well equipped, conveniently placed, well lighted and ventilated series of rooms devoted exclusively to this purpose.

We believe that it is the duty of every physician and surgeon in the several communities where hospitals are now contemplated or being improved, to leave no stone unturned to bring about the development of an institution, which shall render signal service not only to the patients, but to the profession and the public.

It is with peculiar pleasure that we give in full the report of the New Jersey committee and commend it as

a guide for all interested in South Carolina.

Minimum Requirement for a Standard Hospital.

The Committee on Standardization of Hospitals of the State of New Jersey, appointed by the New Jersey State Medical Society in 1914, after visiting each of the hospitals in the State, and making a careful detailed examination of each institution submitted to the New Jersey Medical Society and the New Jersey Board of Medical Examiners, the following requirements, which, after careful study of the conditions of each institution, would seem to them to be the minimum requirements for a Standard Hospital—1916.

1st. The average number of ward patients per day shall be not less than 25. This number not to include either private or semi-private patients.

2nd. A resident intern and suitable facilities for housing him.

3rd. A pathological laboratory fulfilling the following requirements and with a minimum equipment as specified.

The pathological department of the various hospitals in the State of New Jersey should be established, equipped and operated with a two-fold idea or purpose.

1st. To give a better and more thorough opportunity for the investigation of the various diseases that present themselves for treatment in the various wards.

2nd. To permit the interns to have an opportunity to practically apply the theoretical principles that underlie modern methods of diagnosis.

It is desirable that the laboratory should be located in a room set aside exclusively for that purpose. The room should be well lighted, well ventilated, supplied with running hot and cold water, and have gas and electric outlets for illumination and purposes of operation of the equipment. The laboratory should be equipped with sufficient apparatus, chemicals, staining materials and appliances for carrying on the following work. 1st. Blood examinations; 2nd, analysis of urine; 3rd, analysis of gastric contents; 4th, examination of feces; 5th, tissue examinations; 6th, bacteriological examinations; 7th, serological examinations.

1st. Blood Examinations — The scope of the blood work should be the counting of the red and white cells, the estimation of hemoglobin, differential counts of leucocytes, and the detection of parasites or degenerative changes in the red cells.

2nd. Analysis of Urine—Complete chemical and microscopical examinations of the urine are to be undertaken in all cases. This will include a determination of sugar and albumin, if present, urea estimations and microscopical examination of the sediment.

3rd. Gastric Analysis—The laboratory should be equipped to allow the determination of the total acidity, free hydrochloric acid, organic acids, and acid products. The microscopical examination should be for the blood, epithelium and food remnants.

4th. Examination of feces shall include the detection of occult blood, biliary products, food remnants, and the ova of intestinal parasites.

5th. Tissue Examination—The laboratory should be equipped to enable a thorough microscopical investigation of tissue by sectional examination of specimens obtained before or during operations, or of tissue removed at autopsy. Either the celloidin or paraffine methods may be used, but it is recommended that a freezing apparatus, either as an attachment to the

standard microtomes or as an independent unit be supplied for rapid examination and diagnosis of tissue.

6th. Bacteriological Examinations. —The equipment should be ample to allow for examinations of sputum for tubercle bacilli, throat specimens for Klebs-Loffler bacilli. The examination of smears for gonococci, cerebrospinal fluid for bacteria life, and routine cultural examination of catgut, ligatures, suture material, and operating room supplies used during operations. Routine examination of the hands and field of operation are also necessary. Bacteriological investigation of the milk and water supplies of the hospital are also desirable.

The committee recognizes the importance of the hospital having the necessary equipment and appliances for the conduct of the Wassermann test, the complement fixation for gonorrhoea, and the Widal agglutination test for typhoid fever, the care of blood cultures, and facilities for making autogenous vaccines. Such work is only of value, however, when under the supervision of an absolutely, reliable and informed technician. When owing to economic conditions it is not feasible to have a proper technician in the employ of the hospital, the management shauld then see that the hospital has facilities provided for such examinations, and preparations made in a laboratory of recognized standing elsewhere.

Interns shall have access to the laboratory at all times, and they shall be encouraged and assisted to make such examinations as will give them a clear insight into the underlined conditions of their patients in their several services. The employment of a technician, who is capable of making culture media, staining solutions, the preparation of tissue for the microtome and the caring for the apparatus and glassware of the department is to be recommended.

Complete records of all examinations made in the pathological department should be kept on file in that department, and duplicate reports are to be filed with the bedside history of each case. It is also necessary that labeled slides be kept on file in the laboratory of all tissue examination in that department.

Equipment for Pathological Department.

1 Microscope equipped with a 1/3, 1/5, 1/12, oiled immersion and Abbe condenser.
2 Eye pieces.
1 Triple nose piece.
1 Mechanical stage. A dark stage with a suitable light for same is also desired.
1 Microtome either paraffine or celloidin. A freezing attachment for the same, or a freezing microtome as a separate instrument for rapid section work is desired.
1 Incubator, either gas or electrically operated, of sufficient size to accommodate the bacteriological and serological work of the laboratory.
1 Sterilizer of the Arnold type.
1 Autoclave of sufficient size to meet the needs of the bacteriological and serological divisions.
4 Animal cages for the housing of laboratory animals.
1 Pair of balances with one set of metric weights.
1 Haemaglobinometer.
1 Thoma-Zeiss counting chamber.
2 White cell blood pipettes.
2 Red cell blood pipettes.
1 Iron Burette stand.
2 Iron tripods.
6 Squares of iron wire gauze.
3 Bunsen burners.
1 Centrifuge (electric preferred,) with graduated and plain centrifuge

tubes and Babcock attachment for milk analysis (fat determination) is also desired.
1 Iron support with three rings.
1 Stokes water still.
1 Filter pump.
1 Spatula.
3 Wire baskets for test tubes.
1 Set of cork borers.

Glassware as Follows:

4 gr. slides.
3 oz. of cover glass.
2 doz. of staining dishes.
1 lb. of assorted glass tubing.
1 lb. of assorted glass rods.
6 nests of beekers.
3 nests of evaporating dishes.
2 gr. of test tubes 4x½ in.
2 gr. of test tubes 6x¾ in.
½ gr. of glass stoppered tincture bottles (assorted sizes).
2 doz. glass stoppered salt mouth bottles (assorted sizes).
½ doz. funnels (glass) assorted sizes.
1 doz. 1000 c.c. Erlenmeyer flasks.
2 doz. 500 c.c. Erlenmeyer flasks.
2 doz. 250 c.c. Erlenmeyer flasks.
1 doz 120 c.c. Erlenmeyer flasks.
2 10 c.c. graduated cylinders, graduated in 10th c.c.
2 25 c.c. graduated cylinders, graduated in 10th c.c.
2 50 c.c. graduated cylinders, graduated in 10th c.c.
2 100 c.c. graduated cylinders, graduated in 10th c.c.
2 200 c.c. graduated cylinders, graduated in 10th c.c.
2 500 c.c. graduated cylinders, graduated in 10th c.c.
2 20 c.c. pipettes graduated in 10th c.c.
4 10 c.c. pipettes graduated in 10th c.c.
6 5 c.c. pipettes graduated in 10th c.c.
2 doz. 1 c.c. pipettes graduated in 10th c.c.
1 doz. 1 c.c. pipettes graduated in 1/100 c.c.
2 50 c.c. Burettes graduated in tenths.
1 package of lens paper.
12 slide boxes or one slide cabinet.
1 doz. test tube brushes.
1 chemical thermometer—200 c.
1 Doremus ureometer.
1 Esbach albuminmeter.
1 urinometer.
1 bell (glass) for microscope.
1 balsam bottle.
2 doz. Petri dishes 100x10 mm.
2 doz. fermentation tubes.
2 Coplin staining jars.
1 wash bottle.
1 package of labels for slides.
1 package of labels for bottles.
filter paper.
2 tube racks.
1 card index for permanent filing of pathological reports to be crossed indexed.
1 copper water bath for test tubes also fitted with rings.

Approximate cost of this equipment probably within $600.

4th. A form for an annual report from the institution similar to or meeting the requirements of the following forms.

Superintendent's Report to Include

The number of—(Private Room....? Private Ward....? Pay-free Ward ....? Free Ward....? —patients remaining in hospital beginning of the year....?

The number of—(Private Room....? Private Ward....? Pay-free Ward ....? Free Ward....?) —patients admitted during the year....?

The number of hospital days—(Private Room....? Private Ward....? Pay-free Ward...? Free Ward...?) —during the year....?

The number of new patients treated in dispensary during the year....?

The number of re-treatments in dispensary during the year....?

The number of medical cases treated in hospital during the year....?
The number of obstetrical cases treated in hospital during the year....?
The number of special department cases treated in hospital during year ....? (including eye, ear, nose and throat).
The number of surgical cases treated in hospital during the year....? (including gynecological).
The number of abdominal operations during the year....?
The number of special (eye, ear, nose and throat) operations during year ....?
Total number of surgical operations during the year....?
The number of executive officers (here name the officers, i. e., superintendent, assistant superintendent, superintendent nurses, etc).....?
The number of graduate nurses employed....?
The number of pupil nurses employed....?
The number of servants employed (to include all employed, not included above, in hospital)....?
Expenses incurred during the year ....?
Less expense of—(New Buildings...? Loan debts....? Interest....? Insurance....?)—....?
Net expense for maintenance and sustenance....?
Average daily cost per patient....?

Report of the Laboratory and Bacteriology to Include:

Number of urinalysis....?
Blood counts....?
Stomach contents examination....?
Stool examinations....?
Tissue examinations....?
Bacterial examinations of stains....?
Bacterial cultures....?
Wassermann examinations....?
Autogenous vaccines prepared....?
Autopsy examinations....?

X-RAY Laboratory.

Number of patients radiographed ....?
Number of patients fluroscoped, not radiographed....?
Number of patient's plates taken...?

The Surgical and Medical Report to Include:

Number of patients remaining at beginning of the year....?
Number of patients admitted during the year....?
Number of medical—(Private Room ....? Private Ward....? Pay-free Ward....? Free Ward....?)—patients treated during year....?
Number of obstetrical—(Private Room ....? Private Ward....? Pay-free Ward....? Free Ward....?) —patients treated during the year....?
Number of surgical, gynecological included—(Private Room....? Private Ward....? Pay-free Ward ....? Free Ward....?—patients treated during year....?
Number of eye, ear, nose and throat—(Private Room....? Private Ward ...? Pay free Ward...? Free Ward ....?) — patients treated during year....?
Number treated in hospital during year....?
Number discharged....?
Number recovered....?
Number improved....?
Number declined treatment....?
Number died within 24 hours....?
Others....?
Total died....?

The medical report of patients treated to show division of service in which treated (surgical, medical, gynecological, etc.) and especially to record:

Illustration—Report of Operations to Include:

Viz.—Operation, cholecystectomy; diagnosis, operative; improved, 0; unimproved, 0; cured, 2; died, 0; total, 2.

Viz.—Diagnosis, arthritis-rheumatic; sex, M-F; improved, 4; unimproved, 0; cured, 2; died, 1; total, 7.

5th. The hospital equipment shall include an X-Ray apparatus, capable of doing any work, necesary for diagnosis, including fractures, bone pathology, and gastro-intestinal studies, as well as treatment, and this department should be under the direction of a competent operator.

6th. A definite method of history taking, to be made by the resident intern, and properly supervised by the attending member of the staff for each service. The members of the staff should be held responsible for each history, during the time he is on service, being complete before the patient is discharged from the hospital.

The history should contain:

A A complete record of the condition for which the patient is admitted.

B A full physical examination recorded on admission.

C Record of the daily progress of the patient, during stay in hospital. Such record to be made by the physicians, and to be in addition to the nurse's bedside notes. All laboratory, pathological, X-Ray and autopsy records should form part of the physician's history. The history should be complete from time of entrance to discharge for each patient. The hospital should furnish facilities for the filing and safe-keeping of all histories and proper indexing of same; so that they might be available or ready reference.

7th. Department of Dietetics—This department should be under the supervision of a trained dietetian.

8th. Follow-up System. — There should be some method for determining the end result obtained. This may be either conducted by the management or preferably by a social service department.

9th. The hospital may or may not contain a regularly standardized training school for nurses, but the number of patients per nurse, should not be less than one nurse to five patients.

10th. A morgue with facilities for properly performing autopsies, and a complete record of all autopsy findings; such record to be kept on file in the morgue and a copy filed with the patient's history.

Greenville County the Public Health Center.

On October 4th there was held in the City of Greenville one of the most remarkable Public Health demonstrations ever held in the South.

It is well known that for nearly a year, the United States Public Health service in co-operation with the State Board of Health and the County and City Health authorities of Greenville, has been carrying on an intensive sanitary survey. Practically every home, numbering about 12,000 in Greenville County, has been visited by these sanitary experts. All of the cotton mills, numbering about 20 outside of the City of Greenville, have received the most careful sanitary investigations.

It is safe to conclude that no other community on the American continent has had such a wonderful opportunity along Public Health lines.

We are indebted to the Greenville News of October 5th for the following data in regard to the meeting:

Despite the threatening weather and the fall of rain during the forenoon, and the clouds which hung low during the afternoon, health day was magnificently celebrated yesterday by Greenville county. With a long list of distinguished guests of honor present with some sixty-five floats in the parade, with a pervading spirit of enthusiasm for public health, and thousands of the county's people turned out for the day, to see and to hear, to be renewed in their zeal for that prime asset—public health.

It was a unique celebration, and a splendid one. The theme of the day, though of greatest importance, is one not usually given prominence. It was a fitting celebration, coming, as it does, near the close of the sanitary survey which the United States public health service is making in Greenville, and marking, as it does, an era of more intelligence in regard to health matters in this county. It was a national figure here, and because of the fact that the doctrine of public health, but recently taken up by the United States government, was yesterday set forth in striking manner by Greenville county. The lesson was taught visually by the parade. It was taught again by word of mouth at the health rally held last night in the Grand Opera house.

People from many towns and cities of this section were present. Simpsonville sent ten cars to participate in the parade. Greer sent one of the most beautiful floats of the day. County and city joined in efforts to make the day a success, and right royally did they succeed.

Guests of Honor.

Among the guests of honor were First Assistant Secretary of the Treasury, Byron R. Newton; Dr. J. W. Kerr assistant surgeon general of the United States; Hon. R. A. Cooper, of Laurens, who headed the parade; Congressmen Nichols and Lever of South Carolina, and Adamson, of Georgia; Dr. L. L. Lumsden, chief of the Public Health Service of the United States government; Dr. Adams Hayne, head of the South Carolina State Board of Health, and others.

The Pageant.

The street pageant, which started soon after three o'clock from Oaklawn school and proceeded through Pendleton and Main streets to the Confederate monument, and thence back to the starting point, was the finest ever seen in Greenville. There were some sixty-five floats in the parade, mounted marshals, two companies of coast artillery, one from Spartanburg and the other from Greenville, the boy scouts, and other features, also, many of the floats were exceptionally beautiful. The Overland car bedecked and shaped as an aero-plane attracted much attention. The floats of the Southern Public Utilities Company, of the Judson Mill, of Conestee, of the city health department, the Greer float, the line of cars from Simpsonville, the equal suffrage floats, and Mills Mill float, the Southeastern float, and many others were exceptionally good demonstrations. Placarded with health slogans, the floats told true stories of Greenville county and of public health.

The celebration was an outgrowth of the sanitary survey, and of the desire of progressive citizens, the Chamber of Commerce and other organizations to call attention to the important work being done in the interest of health, and to the necessity for health, and to teach the doctrine of health.

Music for the day was furnished by

the Smyth concert band, of Pelzer, and a band from Easley.

On all hands one heard words of enthusiasm for the public health work, and for the fine spirit showed by Greenville county people. The participation of rural schools in the parade was an attractive feature. The guests of honor, in commenting upon the day, were unstinted in their praise of the spirit of progress which they beheld.

Greenville's Highest Recommendation.

Some of the salient points taken from the address of Dr. L. L. Lumsden, chief of the public health service of the Federal government, delivered Wednesday evening at the opera house are as follows:

Greenville county probably has the highest sanitary index in the United States. That is, no other county, predominantly agricultural, shows such a fine sanitary index.

Seventy per cent. of the homes in this county are in good sanitary condition.

Eighteen per cent. of the 11,751 homes visited by the public health men, have complied with all sanitary suggestions, and hundreds of others will do so.

"The City of Greenville is the only city I have found in the United States where no suggestions as to sanitation were needed," stated Dr. Lumsden. The city board of health has put into operation improved sanitary ideas, so Greenville city is a leader today in matters pertaining to public health. Typhoid fever is practically extinct in the city.

Typhoid fever in the county has been reduced by half this year. It is probable that coming years will see this disease cut down ninety per cent. as a result of the work done and the willingness to comply with sanitary rules.

All incorporated towns, and all unincorporated towns are either installing or have installed sanitary systems for refuse disposal. Greer, Simpsonville, Fountain Inn, West Greenville and other communities are doing what has been suggested by the public health service.

In the county are twenty-one mill vilages, counting one cotton seed oil mill. Three of these are in the city, so are already sanitary. Fifteen of the eighteen have completed, or nearly completed the installation of sanitary systems. In eleven villages the work is completed. One village has ordered the sanitary equipment, and the one not yet in line with the work, will do what has been suggested, stated Dr. Lumsden.

Rural schools are rapidly complying with suggestions for modern sanitation.

"Your county has made the wisest expenditures it could make in the creation of county health offices. The same is true of your city. The highest recommendation you can have is the health condition you show. It is now for the people to continue the work, to place proper valuation upon human life and health."

ORIGINAL ARTICLES

CHRONIC SPECIFIC URETHRITIS. ITS DANGER AND TREATMENT.

By E. C. Baynard, M. D., Charleston, S. C.

IN choosing this subject I did so fully realizing its magnitude and the impossibility of covering the subject in detail and so it is my purpose only to call to your attention certain phases of its dangers as a disease and to emphasize the necessity of a most thorough, careful and systematic treatment.

I have no new dangers or complications with which to startle you, nor, I regret to say, have I anything original to offer with which to combat it. I really choose this subject because I feel that it is of such importance from a Physical, Social, Economic and Therapeutic standpoint that it cannot too often be made the subject topic of discourse among Medical men in general.

We form an opinion as to the danger of any disease by a consideration of its severity, its morbidity, mortality, its dangers to others, etc., and so it is with Chronic Gonorrhoea, all of these and even more factors should be considered before we can arrive at a proper conclusion and make a correct estimate.

All of us who have had any experience in this class of work are fully cognizant of the physical dangers to the patient himself. We see quite often patients with many of the complications of chronic Clap, such for instance as Prostatitis, Seminal Vesiculitis, Strictures, etc., and at times are called upon to treat the severer results as Urinary Extravasation. Sterility resulting from a double Epididymitis is a complication which commands a certain amount of thought and consideration.

We are all familiar with its social dangers and it is surprising that even today there are so many patients pronounced cured and safe candidates for matrimony after only a very superficial examination of the patient and a microscopical examination (at times) of only one or two smears. I might venture to say that an Endoscopic examination of the Urethrae of these individuals is the exception and not the rule.

With a discussion of the Economic phase of the subject I shall not burden you but suffice it to say that the amount of time lost and the numbers of dollars spent by the victims of this malady is almost beyond our imagination. Consider just a moment what a gold-mine the chronic Gonorrhoeic is to the Charlatan and Quack.

The Prevalence of the disease together with the Therapeutic difficulties encountered in producing a permanent cure are to my mind two of the most conclusive arguments we have in proving the gravity of this malady as a disease and in convincing the public mind that "Clap" is not a joke but a most serious infection.

Its wide prevalence today is in some part due to the shocking sentiment at times expressed even by medical men that Gonorrhoea is comparable in severity to a Bad Cold—a most dangerous assertion to say the least.

Every now and again one finds an isolated article in some Medical Jour-

Read before the South Carolina Medical Association, Charleston, S. C., April 19, 1916.

nal dealing with the Gravity of this disease and advocating certain measures for its eradication—none of which I believe have proved to be practical and why? Because the eradication of any disease with the peculiar nature of contagion and spread together with the wide prevalence now enjoyed by Chronic Gonorrhoea will be impossible until every man, medical and otherwise, shall have come to a full realization of its true significance and the absolute necessity for a complete and permanent cure of every case.

In our discussion of the treatment then a most important factor to always be borne in mind and impressed upon our patient is that the disappearance of all discharge does not necessarily imply a thorough cure and that the uncured case is not only a menace to himself but is also a carrier of infection to others.

The disappearance of this discharge and certain other clinical evidences is not sufficient ground upon which to base our opinion as to cure. Our patient should be thoroughly examined in every way and at certain intervals after all treatment has been discontinued. His Prostate, Seminal Vesicles, Urethra, etc., should be most carefully watched for evidences of a return of the disease. Smears should be examined thoroughly and carefully tures employed to differentiate susfor organisms from time to time. Culpicious germs when found and the Complement fixation test is another aid but when using it remember that it is most valuable only when it gives a positive result. In other words everything must be done to and for our patient that will insure that all further danger of him as a carrier of infection is eliminated.

In the treatment of the disease itself we have to combat in the majority of cases not only the lesions of a Chronic Urethritis but in addition thereto Pathological conditions of the glands connected with the Urethra caused by an extension of the infection through the various anatomical avenues.

In my last 100 cases of Chronic Gonorrhoea, Prostatitis and Seminal Vesiculitis appeared as complications in about 85% of the patients at the time they appeared for treatment and these conditions sometimes account in great part for the prolonged course of treatment so often necessary in the complete eradication of the disease. The Seminal Vesicles especially being peculiarly resistant at times to any and all forms of treatment.

The various methods of treatment employed today may be summarized as follows: Irrigations, Instillations, Urethral Dilatations, Prostatic Massage and stripping of the Vesicles and last but not least direct treatment to the diseased areas by means of the Urethroscope.

A satisfactory result in the treatment depends upon the correct understanding of the indications for these methods and their proper application, therefore the first and most important procedure is to make a correct diagnosis of all pathological conditions present and to definitely and accurately localize each lesion. When this has been accomplished then the indications for each and every method of treatment becomes clear-cut and decisive.

The technique of all of these methods being well known to all I shall not waste valuable time to describe them but shall call to your attention the Resume of their description as given us by Dr. Luys in his book upon Gonorrhoea and which is as follows:

(1.) Urethro-Vesical Irrigations to

diminish the severity of the inflammation.

(2). Massage of the Glands connected with the Urethra.

(3). Thorough and Methodical Dilatation of the Urethra after the acute inflammatory symptoms have disappeared.

(4). Urethroscopic Treatment.

These four headings cover a most thorough treatment and if followed in the order named the result should more than warrant the amount of work done and the expenditure of time consumed.

Before closing I wish to emphasize the importance of the more general use of the Endoscope. Its value is only too well demonstrated and proved by the amount of reliable information it furnishes and by the vast amount of good it accomplishes when used as a means of direct treatment. By its use we are enabled to see directly the lesions present in the Urethra and to apply treatment much stronger and much more efficacious than by any other method we have and to apply these treatments under the guidance of the eye and not blindly as of old.

References:

Textbook of Gonorrhoea by Dr. George Luys.

Textbook of Urology by Dr. C. H. Chetwood.

Cystoscopy and Endoscopy by Lewis and Mark.

DISCUSSION:

Dr. Marion Wyman, Columbia, S. C.

Mr. President, I guess the general practitioners think it is a reflection upon them to bring up the subject of gonorrhoea and try to tell them something about it, but I feel certain that much harm is done in the treatment of gonorrhoea. In the first place, the essayist has brought out about the false idea of security and infecting others. This paper, of course, is along the line which the Committee on the Prevention of Venereal Diseases tried to impress on the House of Delegates.

Dr. Mobley, Rock Hill, S. C.

Never let it become complicated.

Dr. N. B. Edgerton, Columbia, S. C.

I would like to call attention to the fact that every man has to treat gonorrhoea at some time or other. Enough instructions and the right kind of instructions are not given.

In regard to the injection in an acute case of gonorrhoea, the average physician tells the patient to get a syringe and inject the urethra. The ordinary syringe will hold three or four drams of the solution, which he has been told to inject. He injects enough fluid, if he can get enough pressure behind it, to produce a posterior urethritis. The syringe should not hold more than one drachm of the solution that is to be injected, and the solution should be held in the urethra at least ten minutes, provided it is of the proper strength. If it holds more than one drachm and if the patient gets enough pressure behind the solution, it will produce a posterior urethritis by driving the infection through the triangular ligament, and this occurs in a large percentage of cases. Therefore, always caution the patient to procure a small syringe and never to use much pressure.

THE PHYSICIAN IN RELATION TO OUR PENAL AND CHARITY PROBLEMS.

By Albert S. Johnstone, Secretary.
State Board of Charities and Corrections

Read before the South Carolina Medical Association, Charleston, April 19, 1916.

ALL the citizens of a given State are affected by its penal and charity problems. The concrete expressions of these problems—a particularly brutal murder, an unusually sad case of family suffering through poverty and disease, a great state institution caring for hundreds and perhaps thousands of inmates—may, and often do, seem isolated peaks in modern life. But as soon as one begins to assemble all the facts and to formulate the real explanations of the murder, the stricken family, or the outstanding institution, he begins to see this peak not as isolated, but just as clearly an interpretation of the social order which produces it, and of which we are all component parts, as is the college or the factory.

But even of the specific problems themselves we find various phases—social, moral, educational, economic, racial, physical, mental—which are so closely interwoven that first one and then another must be emphasized if the subject is to be clearly developed.

I ask your consideration of pauperism and crime as problems in public health. After first assembling certain data indicative of the intimacy between disease and mental defectiveness with poverty and with crime, I shall try to formulate a constructive program for your examination both as individual practitioners and also as an association.

I. Disease, Pauperism, and Crime—A Vicious Circle.

I. In General.

"Physical ill health produces poverty, and poverty is the direct cause of crime. In a study of 7,000 cases it was found that over 22% of the poverty was directly traceable to sickness or death in the family. From 30% to 40% of the criminal offenders commit offenses under the direct stimulus of want. All statistics of crime show that the prison population increases during hard times." Ill health encourages drug habits which in turn occasion much crime; it at least gives excuse for non-support, vagrancy, and idleness.*

Specific diseases, like malaria, pellagra, tuberculosis, and hook-worm, which sap the energy, break the spirit, and reduce the efficiency, add their toll to the great social burden of pauperism and therefore of crime.

After presenting more than 33 pages of carefully compiled data, the United States Public Health Service, in Bulletin No. 76, issued in March, 1916, says (pp. 35-37):

"From the foregoing it is evident that underlying all other economic factors affecting the wage-earners' health is the fact of poverty. The other conditions that have been discussed—unhealthful living and working conditions, insecurity and irregularity of employment and income, inadequacy of earnings of heads of families and the necessity for earning of wages by mothers and children—these and other such conditions are but incidents of poverty. The importance of poverty is further emphasized by the facts that the relief of sickness and disease prevention are expensive and that disease is most prevalent among those least able to purchase health.

*G. T. Stephenson: Southern Sociological Congress, Proceedings, 1915, pp. 260, 261.

"**Partnership of poverty and disease.**—In all countries the partnership of poverty and disease has been seen. Levasseur found that the death rate in the poorer sections of Paris was 31.3 per 1,000 per annum, as contrasted with 16.2 for 'middle' class sections and 13.4 for the richest sections. Robertson's studies of an area in Birmingham, England, which was 'peopled largely by unskilled artisans with low wages,' showed that the death rate in 1908 was 22.5 per thousand in this section, while that for the whole city was under 15 per thousand.

"Recent investigations tend to point unmistakably to the fact that poverty is the most important factor in causing infant mortality. In all campaigns for the prevention of disease poverty has always been the most formidable obstacle. In no instance is this better illustrated than in the campaign against tuberculosis. Realizing this fact, the Society for Improving the Condition of the Poor in New York City has adopted the method of removing entire families to a 'home hospital' in order to eliminate the conditions of poverty.

"**Poverty a result as well as a cause of disease.**—But poverty is not merely a cause of sickness; it is also a result of sickness. Sickness is so intimately related to destitution that it is often impossible to determine whether it is a cause or an effect. Records of the causes of destitution show that sickness is one of the most prolific causes. A recent study of the causes of destitution in 31,000 cases in 43 industrial localities in the United States developed the fact that charity relief was required in about 21% of the cases because of the illness of the family bread-winner and that 18% more needed assistance because of the illness of another member of the family.

"Thus a vicious circle of economic disadvantages due to sickness and conditions causing sickness is established. Overwork and worry, insanitary housing and community surroundings, and lack of nutritious food are frequent causes of sickness. Sickness, in turn, reduces the family's economic status by entailing extra expenses and loss of wages, weakens efficiency, and demoralizes the worker. There can be little doubt that such a circle throws more wage earners on the scrap heap than accidents, increases the necessity for charity giving, burdens the state with delinquents, and helps to fill the army of casual laborers with derelict recruits."

2. Tuberculosis.

"It is estimated that from 16% to 25% of the general prison population of this country, at least, are infected with tuberculosis to a demonstrable degree. Of 2,500 inmates of the Elmira Reformatory examined, 20% were in some degree infected with tuberculosis. At one time 75% of all the deaths in the prisons of New York were due to tuberculosis."* Many of our prisons are very unsanitary and the resisting power of prisoners to disease is less than that of the general run of people outside prison walls. Therefore, it seems reasonable to presume that the same ratio of 16% to 25% would hold among the more than 400,000 prisoners discharged from prison annually. But if only one-tenth of these were tubercular, the problem would still be very serious.

According to the Federal Census of 1910, there were in all the penal institutions of the five Southern States—Virginia, North Carolina, South Carolina, Georgia, and Alabama, 15,666 persons on January 1, 1910.

*G. T. Stephenson: Southern Sociological Congress, Proceedings, 1915, p. 258.

During that year 42,026 were committed and 38,224 were discharged. Despite the fact that the negroes comprised only 39.2% of the total population of the United States, they furnished 82% of the prison population, 73% of the committments, 72% of the discharges, and 90% of the deaths in prison. Taking the United States proper as a whole, negroes comprise only 10.7% of the population; but 31% of the entire prison population of the nation is negro.

Now, if the negroes of the five Southern States just named compose less than four-tenths of the general population but more than eight-tenths of the criminal population; and if, as seems true, at least under their present living conditions, they are more susceptible to tuberculosis than are the whites and if the death rate from tuberculosis is more than three times as high among the negroes as among the whites, then the importance of our penal institutions, especially our county jails, in any public health measures respecting tuberculosis is easily seen.*

According to mortality statistics of the Federal Census Bureau, 1913:

(1) The death rate from tuberculosis (all forms) per 100,000 of the population has decreased from 201.9 in 1900 to 147.6 in 1913, or over 25% in 13 years.

(2) For the total registration area (South Carolina was not a registration State, Charleston alone being in the registration area), the death rate per 100,000 of the population for tuberculosis of the lungs only for 1912 was 118.8 for whites, 378.3 for colored; for 1913 it was 115.7 for whites, 350.4 for colored.

(3) For typical Southern cities these rates were:

Atlanta:
1912 W, 89.2; C, 212.2
1913 W, 91.9; C, 222.9
(Colored formed 33.6% total population in 1910.)

Charlotte:
1912 W, 63.5; C, 120.3
1913 W, 90.8; C, 258.0
(Colored formed 34.6% total population in 1910.)

Charleston:
1912 W, 106.8; C. 369.1
1913 W, 85.0; C, 338.7
(Colored formed 52.8% total population in 1910.)

Mobile:
1912 W, 153.7; C, 446.8
1913 W, 187.1; C, 426.5
(Colored formed 44.2% total population in 1910.)

Montomery:
1912 W, 51.0; C, 292.6
1913 W, 54.4; C, 226.0
(Colored formed 50.7% total population in 1910.)

Savannah:
1912 W, 127.1; C, 379.0
1913 W, 139.6; C, 353.5
(Colored formed 51.1% total population in 1910.)

(4) Apparently then the mortality from tuberculosis of the lungs is more than three times as great among the colored as among the whites, though the rate among both is decreasing.

(For further discussion, see U. S. Public Health Reports, Vol. 31, March 17, 1916, No. 11, pp. 705-711.)

3. Venereal Diseases.

Examinations of 8,000 inmates of the Elmira Reformatory showed that 43% had venereal disease when admitted. Similarly 39% of the boys of the Chicago Reform School were found to be infected. It was found that over 40% of the convicts in the Wisconsin State Prison were similarly infected.*

Dr. Edith R. Spaulding, resident physician of the Reformatory for Women, South Framingham, Mass., says that of the 239 women subjected to the Wassermann test for syphilis during the first three months of a systematic examination of all inmates, 44.7% gave a positive reaction. Moreover, "that but 48.5% of the 107 positive cases gave any history of presented any clinical manifestations of the disease. Only 32.7% of the positive cases were known to have received treatment of any kind." (*)

Of 446 cases tested at the State Reformatory for Women, Bedford Hills, New York, 48% gave positive reactions. Dr. Katherine B. Davis, reporting further on 587 cases in the same institution, says that "about 14% showed no reaction for either syphilis or gonorrhoea. Thirty-three per cent. plus had gonorrhoea but no syphilis; 11.8% had syphilis and not gonorrhoea. That means that out of every 100 women there were only 14 who were free from both diseases; 51%, more than half the women, had syphilis, and over 73% had gonorrhoea." (*)

Apparently, then, probably 40% to 50% of the inmates of the Northern penal institutions have venereal diseases. I have no reason to think the percentage is less in South Carolina, but suspect it is considerably higher.

One reason why I suspect venereal disease is more common in our Southern prisons is the high per centage of negroes among our criminal population. True, medical statisticians estimate that at least 75% of all the men in the United States have had venereal disease at one time or another during their lives; but the indications are that these diseases are more prevalent among negroes than among whites.

Weatherford says:* "I have taken pains to question a great many Christian physicians, both white and colored, about the prevalence of gonorrhoea among negroes, and most of them put the percentage among the men at 95 out of every 100. Some of the colored physicians have put it higher than that. There can, of course, be no reliable statistics secured on this point, and these are simply opinions which cannot be verified. It is always dangerous to accept opinions as verified facts, but, allowing for all error, the figures must be alarmingly high."

And then he quotes from the Atlanta University Publications, No. 2, "Social and Physical Conditions of Negroes in Cities," 1897, p. 23, as follows:

"For the period 1882-85, the colored death rate in Memphis from scrofula and syphilis was 205.8 per cent. in excess of that among the whites; but from 1891 down to the present time, the excess has been 298%. For the period 1893-95, there were in the City of Nashville 8 white deaths from scrofula and syphilis, and 35 colored. In proportion to the population there ought to have been only 5 colored. Of course, allowance must be made for the fact that, on account of the scandal and disgrace, white physicians

*G. T. Stephenson: Souther Sociological Congress, Proceedings, 1915, p. 258.
(*) American Prison Association, Proceedings, 1913, pp. 358-363.

*"Negro Life in the South," 1910, p. 78.

are reluctant to report white deaths from these causes; whereas such motives rarely, if ever, influence them in reporting colored deaths."

4. Alcoholism.

In a paper on "Pauperism" which he read before the recent Pan-American Scientific Congress in Washington, the section on Public Health and Medical Science, and subsequently published in the Survey (Vol. 35, No. 19, p. 555), Dr. Edward T. Devine spoke of alcoholism as follows:

"Alcoholism has been attacked as a vice, as a crime, as a habit, as a weakness, as a disease. It is all of these things, but here we are interested in it chiefly as a disease, furnishing a problem for mental hygiene and resulting in pauperism.

"The international list of causes of death recognizes alcoholism, acute and chronic, and from this specific disease as distinct from all organic diseases attributed to alcoholism, the United States census reports 3,744 deaths in the registration area in 1913, approximately one in 240 of all deaths—a number larger than the combined number of deaths from malaria, pellagra, rickets, lead poisoning, smallpox, anthrax, and rabies.

"Its importance, however, is of course but faintly indicated in mortality tables. As an obstacle to economic independence, as a cause of that unreliability and inefficiency which result in pauperism, it is probably surpassed only by inherited mental defect."

(1) A study of 18,606 destitute persons helped by New York agencies during two eight-month periods of 1909-1912, showed that 60% of the cases were caused directly by intemperance. It would seem, therefore, that the estimate that from 33% to 50% of the pauperism of the United States is due to alcoholism is probably conservative.*

(2) Alcoholism is closely related to the spread of venereal disease August Forel in "The Sexual Question" says: "The depraving effect of alcohol on the sexual appetite is unlimited. Among these effects are the following: (1) Irreflective sexual unions, resulting from the exaltation of the sexual appetite and temporary paralysis of the sentiments which inhibit such unions in persons who are not under the influence of alcohol. These include the seduction of girls, orgies with prostitutes in brothels, etc. (2) Increase of venereal disease. I have made statistics which show that about 75% of venereal disease is contracted by men under the influence of alcohol. (3) Alcohol is also the most indispensable vehicle of prostitution and proxenetism, which could not be maintained without it, at any rate in their present disgusting and brutal form."*

And George J. Kneeland, to whom I am indebted for much data under this section, summarizes an extensive study of the matter by saying: "During the past seven years we have investigated conditions with regard to commercialized prostitution in one hundred and two towns and cities in the United States. These investigations were focused, in part, on vice resorts and resorts which cater to vice. The first group consists of parlor houses of prostitution, apartment in tenement houses, and assignation hotels. The second group includes restaurants, public dance halls, and saloons. The striking fact developed that the sale of liquor was as much a part of the business as the immoral features. A mass of evidence proved that many

*E. C. Dinwiddie; Southern Sociological Congress, Proceedings, 1915, pp. 117, 118.

*Kneeland, Social Hygiene, Vol. II., No. 1, January, 1916.

of these resorts (of immorality) could not exist on the profits from immorality alone, but these must needs be augmented by the sale of intoxicants."*

(3) The part alcohol plays in crime may be suggested by a few statements. "The Chicago Juvenile Protective Association dealt with 1,379 cases of adult delinquents toward children during the first six months of 1912 and ascertained that 75% of this number had drunkenness as their chief cause."*

Dr. Sleyster, of Wisconsin, prison physician and superintendent of a hospital for the criminal insane, studied carefully 1,800 criminals. He was able to substantiate the statements of 592 of these. Of the 592 he says: "217 (or 36.8%) were the sons of drunken fathers; 239 (or 40.4%) were addicted to the use of alcohol before reaching the age of 15; 311 (or 52.5%) habitually drank to excess; only 57 (or 9.6%) were abstainers; and 384 (or 64.9%) spent their evenings in saloons, at cheap shows, or on the streets."*

He has given us a separate report on 269 murderers. "Of these, alcohol was used to excess by 41.5%, while but 12.6% were abstainers. Nearly half were under the influence of alcohol when the crime was committed, and 27.9% had a history of previous arrests for drunkenness."*

Sweedish statistics show that "between 1887 and 1915, of the men prisoners, 71.9% were either intoxicated when the crime was committed or were habitual drinkers."*

II. Mental Deficiency — the Great Causal Factor in Pauperism and Crime.

Important as are chronic ill health, tuberculoss, syphilis, gonorrhoea, and alcoholism as indirect and direct causes of poverty and crime, I believe we are facing today an even more fundamental factor. Those who have worked longest in the field of charity and corrections seem to agree very generally with Amos W. Butler, secretary of the Indiana Board of State Charities, who, as president of the National Conference of Charities and Correction in 1907, made the following statement which he repeated with added emphasis at the 1915 meeting of the same body in Baltimore:

"Feeble-mindedness produces more pauperism, degeneracy and crime than any other one force. It touches every form of charitable activity. It is felt in every part of our land. It affects in some way all of our people. Its cost is beyond our comprehension. It is the unappreciated burden of the unfortunate. It is a burden we are compelled to bear; therefore, let us bear it intelligently, to the end that the chain of evil may be lessened, the weak cared for, and the future brighter with hope because of our effort. Ye who are strong must bear the infirmities of the weak."*

1. Definiton.

In discussing the nature of mental deficiency, Tredgold distinguishes between amentia and dementia:

"Mental defect occurring subsequently to mental development may be compared to a state of bankruptcy, and is more fittingly described as dementia; whilst the person whose mind has never attained normal development may be looked upon as never having had a banking account, and this state of mind is designated amentia . . . . Mental deficiency, or amentia, then, is that state in which the mind has failed to attain normal development."*

*Dinwiddie: Southern Sociological Congress, Proceedings, 1915, pp. 117, 121, 122.

*Proceedings, p. 356.

What is the dividing line between the normal and the abnormal mind? It "lies not in the training they have received, but in their innate capacity to respond to this training. The mentally deficient person is one in whom this innate potentiality is so limited that no education and no training can avail to render him capable of the adaptation necessary for independent survival . . . . . We may accordingly define amentia as a state of restricted potentiality for, or arrest of, cerebral development, in consequence of which the person affected is incapable at maturity of so adapting himself to his environment or to the requirements of the community as to maintain existence independently of external support."*

The American Association for the Study of the Feeble-minded has grouped aments, or the feeble-minded, as follows: idiots, those of mental age up to and including two years; imbeciles, those from three to seven years, inclusive; morons, those from seven to twelve years old mentally. For a definition of the moron, that of the Royal College of Physicians has been accepted, namely, "one who is capable of earning his living under favorable circumstances, but is incapable from mental defect existing from birth or from an early age (a) of competing on equal terms with his normal fellows or (b) of managing himself or his affairs with ordinary prudence."*

In discussing this definition, Dr. H. H. Goddard, one of the foremost of American authorities, says that the emphasis on the word "incapable." "This is the thing that we have heretofore ignored. We have known that these people did not compete successfully and that they did not manage their affairs with ordinary prudence, but we have not recognized that they were fundamentaly incapable of so doing. We have assumed rather that they could do it if they would. All of our efforts have been toward making them do that which we believed they were capable of doing. This **incapacity** once recognized, our problem taken on an entirely different aspect—every feeble-minded person is bound to be the victim of his environment because he has not intelligence and judgment and will-power enough to control that environment."*

Dr. Walter E. Fernald, recognized as one of the leading institution men in this country dealing with this class of unfortunates, says: "In the light of our present knowledge, feeble-mindedness is the result of permanent abnormal brain conditions, and is incurable. Once feeble-minded, always feeble-minded."*

2. Incidence.

So much for the nature of feeble-mindedness. What is to be said as to its incidence? After the most thorough study of this problem the world has yet known, the British Royal Commission found that the mean average incidence of amentia in the 16 areas they surveyed in England, Wales, Scotland and Ireland was 3.28 per 1,000 of the population, ranging from 1.1 to 4.68. The combined population of these 16 areas was 3,873,151. The Commission then estimated that for the total population of England and Wales, 34,349,435, the average was 4.03 persons per 1,000, or 1 in every 248. Every 100 aments are distributed as follows: 6 idiots; 18 imbeciles; 76 morons, of whom 37 were children; and in every 10,000 of the population, there are 2 idiots, 7 imbeciles, 29

*Mental Deficiency, 2nd Ed., pp. 1, 7, 8.
*Goddard: Feeble-Mindedness, Its Causes and Consequences, pp. 1, 5, 11.

**National Conf. of Charities and Correction, Proceedings, 1915, p. 290.

morons, of whom 14 are children, and 36 insane.*

No such thorough studies have ever been made in America for such large areas. From the work that has been done, however, Goddard and others make the following estimates:

(1) That at least two in every thousand of the general population are feeble-minded.

(2) Estimates as to the percentage of feeble-mindedness among the public school population vary considerably. I am indebted to Mr. Joseph P. Byers, Executive Secretary of the Committee on Provision for the Feeble-Minded, for the following data given me in a letter under date of April 11, 1916:

"A very illuminating investigation of the schools in Porter County, Indiana, was made a year ago by agents of the United States Public Health Service. Dr. Clarke who directed this survey told me that he examined practically all of the children in the rural schools of that county and that they found nine-tenths of one per cent. feeble-minded. There were many other children who had been so classed or who at any rate were behind their grades, retarded, but they found upon careful examination that the cause of retardation was physical and not mental; that the retardation was due as he said to "remedial causes."

"Something along the same line is indicated in the report of Prof. J. M. McCallie, Supervisor of Special Classes, Trenton, N. J., Public Schools. In 1915 Trenton had eighteen special classes of fifteen children each. The city has provided facilities for complete medical and mental examination of school children. The principals of the several schools last year recommended 120 children for transfer to special classes. After the physical and mental examination and test only one-third of these children were actually transferred from the nurmal classes. In addition to this 40 children who had previously been transferred to special classes were returned to the normal classes. I give you these figures to show you how hazardous it is to make any conclusive statement with regard to the number of feeble-minded children in the public schools. Retarded children are not necessarily feeble-minded; poor diet, entering school late, sickness, absenteeism, foreign birth, are some of the causes that contribute to retardation when there is no real mental defect."

(3) Many competent students estimate that 50% of prostitutes are feeble-minded. The Massachusetts Commission for the Investigation of the White Slave Traffic reported in 1914 that of "300 prostitutes 51% were feeble-minded. All doubtful cases were recorded as normal. Not more than six of the entire number seemed to have really good minds."*

Dr. Martin W. Barr reports that "in a study of harlots numbering 424, 80% plus were found to be distinctly imbecile, their mental age never exceeding twelve years. The 20% adjudged normal were found to be unable to carry on a consecutive conversation; and, never reading papers or books, were absolutely ignorant on the ordinary topics of the day. A large majority of the whole had contracted venereal diseases and were pronounced alcoholics and drug fiends." Continuing, he says, "of some studies in the juvenile courts, numbering 1,487 cases, 61% were found imbecile beyond peradventure, their mental age averaging from 7½

*Tredgold: Mental Deficency, 2nd Ed. pp. 11, 12, 14.

*National Conference of Charities and Correction, Proceedings, 1915, p. 360.

to 11. Of these, over 50% were victims of venereal diseases."*

In accordance with the law creating the State Board of Charities and Corrections we are are this year endeavoring to collect as full and complete statistics as possible on feeble-mindedness, delinquency, and dependency, especially as these are interrelated, in South Carolina. To this end, we have secured an expert field worker, Miss Helen Hill, who was trained under Dr. Goddard at Vineland, N. J. She will investigate cases reported to us from various sources and will visit the different counties getting in touch as far as possible with the special problems. This continuous census is necessary if we would know the real facts in this State. To make a complete survey is not only impossible at this time, but unnecessary. We do need, however, as the law contemplates, a register of all cases, and this is in process of building now. Our work is being greatly facilitated by the co-operative effort of those especially interested; and we shall be more than glad to receive from you data regarding any unfortunate white person whom you believe to be feeble-minded, as complete as you may be able to report. Such cases will then be investiated as soon as possible and, of course, your relations in the matter will be kept as confidential as you may wish.

3. Causes.

In discussing the causes of amentia, Tredgold says:

"I hold that primary amentia is a manifestation of a pathological germinal variation which has been produced by the environment, and that the germinal change is of the nature of a vitiation. That is to say, it consists of an impairment of the intrinsic potentiality for development, which may be widespread and affect the germ cell as a whole, or which may be less extensive and confined to the neuronic determinant."*

In Goddard's opinion, from 65% to 85% of the feeble-mindedness we now have is hereditary. In fact, it seems to be pretty generally agreed that at least two-thirds of our feeble-mindedness is due to heredity.

Therefore, Dr. Fernald says "that the one effective way to diminish the number of the feeble-minded in future generations is to prevent the birth of those who would transmit feeble-mindedness to their descendants . . . . It is possible that a real eugenic survey of a given locality might show that 90% of the feeble-mindedness in that locality was contributed by 5% of the families in that community."*

That, practically speaking, heredity is the point of attack is further indicated by the following striking reports:

(1) Dr. Martin W. Barr says: "Recently my attention was called to a family where, both parents being feeble-minded, there were 22 imbecile children; in yet another were 18 idiot children—also of defective parents—the community in which these latter lived, taking pride in exhibiting them as curiosities. One family shows, in four generations, 82 imbeciles; a second, in three generations, 34 imbeciles; and two other families, each with an idiot mother, show in the one 7, in the other 9, illegitimate children."*

*National Conference of Charities and Correction, Proceedings, 1915, pp. 363, 364.

*Mental Deficiency: 2nd. Ed., p. 33.

(*) National Conference of Charities and Correction, Proceedings, 1915, pp. 290, 294.

*National Conference of Charities and Correction, Proceedings, 1915, p. 364.

(2) Goddard has traced the absorbingly interesting history of the Kallikak Family. Martin Kallikak, Sr., was a soldier in the Revolutionary War. He went to a tavern before he was twenty-one and had illegitimate relations with a feeble-minded girl resulting in the birth of a son. After the war, he married a normal woman and behaved himself. His decendants by these two women have been traced to the number of 496 by the normal wife, 480 by the feeble-minded girl.

All of the former were normal; they "married into the best families in their State, the descendants of colonial governors, signers of the Declaration of Independence, soldiers, and even founders of a great university. Indeed, in this family and its descendants we find nothing but good representative citizenship. They are doctors, lawyers, judges, educators, traders, landholders, in short, respectable citizens, men and women in every phase of social life. There have been no feeble-minded among them; no illegitimate children; no immoral women. There has been no epilepsy, no criminals, no keepers of houses of prostitution. Only fifteen children died in infancy."*

But what about the other branch? Of the 480 descendants resulting from illegitimate intercourse with that one feeble-minded girl, 143 were feeble-minded, 36 were illegitimate, 24 were confirmed alcoholics, 3 were epileptics, 82 died in infancy, 3 were criminal, and 8 kept houses of ill fame.

(3) "In the neighborhood of a small town lying among the New England hills there is a population among which feeble-mindedness, alcoholism, and immorality are rife. It was found that practically all the less desirable inhabitants could be traced back to one of two original sources—a shiftless basket-maker, probably of French origin, and an Englishman, both of whom migrated into the district about the year 1800. Their descendants comprise the 'Hill Folk' . . ., and it was found that between 1879 and 1889 they absorbed almost one-tenth of the whole amount spent by this town in poor-law relief. This proportion has now risen to more than one-fourth, and during the past thirty years sixteen of these descendants have been sentenced for serious offenses, mostly of a sexual character, their punishment costing the State about $10,000.00."*

(4) "Another genealogical study made under the same auspices relates to the descendants of Joseph "Nan", who lived in the mountains of Massachusetts about 1760. The original Nam had eight children, some of the descendants of whom were prosperous, but the majority sank into the lowest social grade, and are now living under the most wretched conditions. Of 784 descendants who have been traced, it was found that 88% of females and 90% of males were excessively addicted to alcohol; 180 were illegitimate; there were 232 licentious women and 199 licentious men, as contrasted with 155 chaste women and 83 chaste men; there were 19 epileptics, 24 insane, of whom 7 have been in custodial care, 3 in a girl's home, 15 in an orphan asylum, and 40 in State prisons."*

(*) "The Kallikak Family."

4. Prevention.

A number of methods for preventing the propagation of feeble-mindedness have been proposed, the two most generally considered being segregation and sterilization. The former policy is objected to because the large num-

*Tredgold: Mental Deficiency, 2nd Ed. pp. 449, 450.

ber to be cared for involves enormous expense. While we may never be able to segregate all, even of the more urgent cases, still we must do our utmost along this line, for "proper care costs less than neglect."

Sterilization. apparently simple, has met with opposition, too. I think it has been legalized in at least eight States, the method being vasectomy or salpingectomy. Though its constitutionality has been upheld by the Supreme Court of the State of Washington, I think it is well within the truth to say that these laws have become dead. Dr. Cornell dismisses this method from present consideration by saying:

"The sterilization of feeble-minded is now universally acknowledged to be impracticable, principally because the line of demarcation between feeble-mindedness and normality is not definite, because the hereditary influence in this field has not been quantitatively determined, because the operation is dangerous, the idea more or less revolting and, possibly, because it is not in consonance with the religious thought of a certain portion of the community. Sterilization, therefore, need not be further discussed at this time."*

Therefore, in my judgment, whatever the future may develop, the thing for us to do now is to secure an institution for the feeble-minded, which shall be under State control, but entirely separated from any institution now in the State, built on the colony plan with simple buildings, large acreage, the whole plant especially adapted to the custody of these unfortunate folk, that there they may become, through proper care and training, as nearly self-sustaining as possible and that by being both comfortable and happy they may be enabled to enjoy their childhood as richly as they can as long as they live. I think we should begin with our present institution population, the women first, and then the men, of procreative age. As our people understand the nature of the problem, its extent and menace, the institution will grow, so that, with it and the other methods the future may develop, we may hope to begin to make a contribution to the solution of the problem at once that will be felt in another generation or so.

*National Conference of Charities and Correction, Proceedings, 1915, p. 338.

III. A Constructive Program.

In the light of the intimate relationships we have seen to obtain between chronic ill health, tuberculosis, venereal diseases, alcoholism, and feeble-mindedness with poverty and crime, I wish now to ask your consideration of a two-fold program which it seems to me should be carried out as rapidly as our own alertness and wisdom together with an increasingly sensitive, intelligent public opinion shall make possible.

1. Enlarged Medical Practice. We should make a radical and complete change in our present medical system as applied to county penal and charity institutions. In our first Annual Report we pointed out that one of the most fundamental needs of our county institutions is a greatly increased medical supervision over the jails, chaingangs, and almshouses. We have found in many of these institutions gross violations of the most elementary laws of sanitation due to a failure to know and apreciate the presence, dangers, and remedies of dirt and disease. County physicians are expected to come to the institutions only when sent for and are paid for only this service. They are asked to treat the sick but are not required or expected nor are they paid to do such preven-

tive work as make physical examinations, inspect food and sanitary conditions, or direct officials in the general conduct of their institutions from the standpoint of health. Therefore, contagious diseases are frequently not discovered in the jail unless the illness be especially severe and prisoners with communicable diseases are allowed to use the same bath tubs, toilets, drinking cups, bedding, etc., that the others use.

In one jail I found that the blankets are rarely washed, but burned up when they become too filthy for further use. In another, the jailer, in response to my question, said the blankets there were never washed; they were sunned occasionally, and then burned when they could be used no longer. In view of such facts as these, I give it as my deliberate opinion that if there be anything in ??

Therefore, under this first head of our program, I wish to suggest five things:

(1) Revise Sanitary Code.—That the Sanitary Code for "Jails and Other Penal Institutions," promulgated in 1912 be carefully and comprehensively revised. To this end it would seem wise for a small committee from this Association and for a similar committee from the State Board of Charities and Corrections to meet with the State Board of Health at the latter's invitation and jointly to formulate this revision. Such a code, I think, might well apply to the charity institutions as well as to the penal and should erect definite, clear-cut standards that, though beyond our present conditions, will not be so far ahead as to preclude a reasonable prospect of their early realization. These standards should comprise much that is at present included in the code, but in more specific terms.

(2) Co-ordinate Medical Interests.—That the interest and activities of local physicians, local boards of health and State agencies be so correlated under some central State supervision as to get not only more frequent inspections made of the various institutions, but to better purpose because fitting into and carrying out a carefully conceived, purposeful program. This matter, too, might well be formulated by the joint committee just suggested.

(3) Preventive Medicine.—That the medical practice in our county institutions be made thoroughly preventive as well as curative.

(4) Non-Technical Pamphlet.—That this Association have prepared a brief, clear, simple statement of the best methods of caring for our jails and almshouses from the standpoint of preventive medicine, covering at least such points as venereal diseases, light, heat, ventilation, bedding, food, and personal hygiene. Were such prepared in non-technical language, it would be of much help to those agencies trying to educate the officers, the inmates, and the public and so tend to make permanent reform possible.

(5) Venereal Diseases.—That you use our institution population as fully as possible in the study and prevention of venereal diseases. As I understand it, the program for the control of venereal disease includes three main features: the discovery and registration of cases; the treatment and supervision of cases until the patient becomes non-infectious; a campaign of education to awaken society as a whole to an appreciation of the meaning and the consequences of the widespread prevalence of these diseases.

We must understand clearly the nature of this problem. True, it is social and moral; but it is a problem in public health as well. Tuberculosis has been dragged out into the open, a

widespread educational campaign has been waged, and now the Federal Census reports that during the thirteen years from 1900 to 1913 the death rate from tuberculosis decreased 25%. Perhaps we might hope for a vast improvement if venereal disease were likewise brought from its foul darkness and, in wisdom and fairness, dealt with from the point of view of community and national health. I can remember, too, when the family said little of its tubercular member. But not all venereal disease is the result of immorality, and I think we must agree with the British Royal Commission on Venereal Diseases which, after declaring in one of its pamphlets that "it would be nothing short of a public calamity if the idea gained acceptance that syphilis is not to be more abhorred than smallpox, and that he who carelessly, or after warning, transmits its poison to his wife and children, ought not to be held guilty of a crime," goes on to say that "any man who reads this pamphlet fairly must admit that it is common sense to do the best he can to avoid the risks to himself and others that it describes; while, as for the women and children, well—we take it for granted that they go first into the boats because this has become a national habit. When it has become a national habit to put them first in what is much more than a matter of mere life or death, syphilis and prostitution itself will be in a fair way to disappear."*

For the sake, then, of the inmate himself and his physical improvement, of his fellow inmates and of the officers and others who attend his needs, and for the sake of the public to which he may and often does return, every inmate of our penal institutions, especially, should be thoroughly tested for both gonorrhoea and syphilis and proper treatment, particularly in the early stages, carried out at the expense of that branch of the government in whose custody or care he is. The recent passage of the Wassermann test act is a long step in this direction. If such testing be done with practically every inmate, and the proper registration kept in the offices of the State Board of Health, we shall soon have a body of data of immense scientific value and probably of such serious social import as to arouse the State to make even more progressive steps possible.

I recognize there are difficulties. For instance, I was told by one jailer who happened to have some six white girls in his jail at the time I inspected it, that he had noticed the prostitutes of his community successfully eluded the officers of the law until they became infected or until the disease reached acute stages. They then put themselves in the way of arrest so that they might get sent up for twenty or thirty days to get food, shelter and medical treatment meantime. From the jail they returned to the life from which they had temporarily removed themselves, there to continue to infect and to be infected. If this be anything like a just accusation against our present penal system and the meagre medical practice which an unaroused public opinion refuses to enlarge and make effective, then surely you as a Medical Association and you as citizens are duty-bound to do your utmost in both capacities as effect a wise change. Perhaps such a change would include the continued custody of convicted prisoners until the person is morally as well as physically fit to return to society.

The second element in the construc-

*Quoted by Dr. Wm. F. Snow, Social Hygiene, Vol. II., No. 1, January, 1916.

tive program I am now laying before you would seem reasonably logical and full of potential benefit, both scientific and humanitarian. It is to interpret the criminal and the pauper in physical and medico-social, and not exclusively in legal terms. To do this effectively, however, we must have a body of men and women in our State so profound in their scientific knowledge, so expert in their skill, so keen in their insight into human nature, so reliable in their judgment and so outstanding in their moral character that they will command a growing confidence on the part of the officials, the courts, and the public.

Such an interpretation of crime and pauperism must needs result in three things:

(1) Towards Crime.—For the criminal, individualization of punishment. We should treat the criminal rather than the crime as the best way of preventing his becoming a recidivist. In the words of Dr. Morris Parmelee, the basis for this treatment is discovered by a threefold process: "There is first of all the criminal act and its motive as far as that motive can be ascertained. Then there is the life history of the criminal revealing his previous criminal record if he has any, his education, his vocation, his manner of life, etc. Lastly there is all that may be learned by means of a physiological and psychological examination."*

Our present system doubtless has its good points, but let me give you a few illustrations of where it breaks down:

(a.) I found in one county jail four white female prisoners. They comingled freely among themselves and with the negro female prisoners. One of the white women was brought in a day or so before drunk. A second was under arrest for carrying on much the same sort of business that she did years ago in the red light district of that city. A third was a woman of 48 years of age physically, whose mental age was 7, and who was under sentence of 10 years for complicity in a murder. The fourth was a pink-cheeked girl of 12 or 14 years, whose mental age was 7. She saw a coat suit and because she wanted it she took it. She is not mean or bad at heart, simply a child. Is that the place or the treatment to correct childish impulses that are evil?

b. The oldest woman in the group was likewise a child mentally, 7 years old. With two men, one of whom was her son, she had been convicted of complicity in a murder. This white woman is the mother of six children, all but one of whom are probably illegitimate. One of her children is a mulatto, another an imbecile of low grade. She is good natured, simple, just a child. Her son, at the time under sentence for fifteen years, tested about 7 mentally though he was about 21 years old physically. The other man was about 28 years of age physically, but tested 8 mentally. That is to say that these three persons whose combined physical ages is about 95, whose total mental ages are about 22, were beginning sentences that aggregated 40, years.

If it be true that "once feeble-minded, always feeble-minded," is it possible to see in this sort of criminal procedure either wisdom or humanitarianism?

(c) It is such cases as these that make Goddard—keen, trained scientist that he is—say clearly and passionately:

"We are probably not far wrong if we say 55%, we are certainly absolutely safe if we say 25% of all prisoners are feeble-minded; feeble-minded, and consequently irresponsi-

*"Anthropology and Sociolgy in Relation to Criminal Procedure," p. 148.

ble, and as a still further consequence, unjustly treated, no more deserving of being shut up in a prison than the six-year-old child, or the ten-year-old child, who, in his ignorance or in his condition of childish mind, does something that is seriously wrong. These people are children, they think as children, they act as children, they have never become men and women in intelligence, they have never put away childish things; they are men and women only in stature, and in the number of years that they have lived in the world."*

(2. Towards Poverty.

To interpret the pauper in physical and mental terms means an entire reclassification of our almshouse population, with special provision for the separate groups, including district hospital-homes for the aged infirm instead of county poorhouses; and for the problem of poverty it means a program of prevention by dealing with the causes rather than with the effects.

If at least 50% of those who find a haven in our almshouses are mentally fundamental reasons and there put in defective, we must push back to the our best work. We shall never cure poverty if we persist in not beginning the custodial care of the feeble-minded until after they have spent their younger days in an atmosphere of social freedom, rapidly propagating while possessed of procreative power.

Why should we not insist that a careful physical and mental examination of the pauper be made a condition pre-requisite to every form of continued charity? And if we find a home marked by physical and moral degeneracy, with low grade mentality, should we not at once take such steps as are necessary and as shall have been made possible by wise legislation in response to an awakened, intelligent, aggressive public opinion, and so protect that home against itself, lead its dangerous inmates into happy, contented, useful lives, and thereby save society—that is, ourselves from the menace of continued propagation of an already indescribable burden?

(3) For the Feeble-Minded.

For the feeble-minded, it means special provision, particularly for the poor feeble-minded women of child-bearing age. Feeble-mindedness is by no means limited to the poor; but the wealthy can care for their own fairly well. The plight of the feeble-minded poor, especially their girls and women, is most miserable.

The Children's Bureau of Philadelphia (Bulletin No. 1, 1910) made some intensive studies of a number of feeble-minded women are either illegitimate lowing conclusions:

(a) "Practically all poor feeble-minded women at large become the mothers of illegitimate children soon after reaching the age of puberty.

(b) "Feeble-minded women produce many children. In this series, 20 feeble-minded women produced 60 children.*

(c) "The helpless feeble-minded woman is the prey of not one man, but many men. In this series, 20 women bore 60 children by 38 fathers.

(d) "Most of the children of feeble-minded women are either illegitimate or feeble-minded or both.

(e) "The histories of these feeble-

*"Relation of Feeble-Mindedness to Crime," Bulletin of the American Academy of Medicine, Vol. 15, No. 2, April, 1914.

*"The average number of children born in a family is 4, whereas in these degenerate families we find 7.3 each, and if the still-born children are included, the disproportion is still more striking, as the average number of children born in each family is brought up to 8.4."—A. W. Butler: National Conference of Charities and Correction, Proceedings, 1915, p. 360.

minded women and of their feeble-minded children are practically the same. Their unfortunate birth, helplessness, pauperism, and run a part of a continuous series whereby the community is constantly supplied with the elements of degeneracy."

Our own system in South Carolina today is no better. Just in so far as we continue to allow the feeble-minded women of child-bearing age to live unprotected lives, whether married or single, we can but expect them to continue to people our State with offsprings of their kind, to foster the spread of disease, to clutter our courts and our charities, and, therefore, to increase in unending degree our penal and charity problems. Much the same might be said of the males. Together they constitute an urgent social problem, pressing upon the intelligent men and women of this State for immediate action. To make provision will cost money. But the lack of provision costs money. The difference is that we do not know how much this neglect costs.

Therefore, 1917 must see the creation of a State training school for the feeble-minded, and you as physicians and as citizens must share in the responsibility for securing this institution, and you are being counted on heavily to discharge this duty to the unfortunates and to society as a whole, both of whom it is your high privilege to serve day and night without srint.

Summary.

The argument of this paper may be summed up briefly as follows:

There is a very definite relation, both causal and contributory, between physical disease, poverty and crime. Mental deficiency is an even more fundamentally causal factor. Therefore, the criminal and the pauper should be interpreted in physical and medico-social terms. Such an attitude toward the criminal and the pauper would lead to the folowing modifications in our present penal and charity system:

1. A complete change in the medical practice at our county institutions by making it thoroughly preventive as well as curative. To this end, (a) the Sanitary Code of 1912, in so far as applicable to these institutions, should be revised; (b) the medical factors now interested in them should be wisely fostered and co-ordinated; (c) educational work of a public health nature should be undertaken with the officers and inmates; and (d) the population of these institutions should be extensively used in studying and preventing venereal disease.

2. An individualization of the punishment accorded criminals, who will be treated for what they are rather than for what they have done, with a view to their reformation and restoration to society when possible, as the best means of protecting society and preventing crime.

3. An entire re-classification of our almshouse population, with separate provision for the different classes, putting the aged infirm into district hospital-homes rather than gathering all ages and grades in county poorhouses as we do at present.

4. Special study of, and provision for, the feeble-minded, particularly for the women of child-bearing age who are poor and unprotected, whether married or single. We believe this to be the State's most fundamental task just now from the standpoint of charities and corrections.

Thereforefore, to speak to you specifically, we urge that as a part of your public health policy you foster a program of preventive medicine in our county institutions and put your strength as individuals and as a scien-

tific association behind the movement to secure State provision for these unfortunates amongst us who, for the want of a better name, we call feeble-minded—children in mind and in heart despite their physical years, and therefore needing the special care of their mother State.

DISCUSSION:

Dr. Marion Wyman, Columbia, S. C.

In discussing Mr. Johnson's paper, I wish to offer a resolution of thanks from this Association for the presentation of this paper on this very important subject.

First of all, we favor a law which prohibits the transportation of women within our State for immoral purposes. Since about January, since alcohol has been prohibited, pianos have also been prohibited in houses of ill-fame.

A clean bill of health should be given by everyone intending to marry. Several times, recently, I have examined a prospective bridegroom.

A doctor who has a patient puts down "Case No. 30." He sends this case to the State Board of Health and it goes back as 876, and ever after that he is known as "876." And that works out very nicely in some of the States.

The sixth and last causes a good deal deal of discussion: "We do not favor an indiscriminate campaign in sexology, but think the proper way to instruct the public in these delicate matters is by personal talks by the physician."

The House of Delegates went on record last year to impress these matters by the physician and emphasize to the patient the necessity for a complete cure, thus preventing infection of their future wives.

The President: I want to explain that the reason I did not call for a

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discussion on Mr. Johnson's paper I knew he wanted to leave the hall. Do you offer that as a resolution, Dr. Wyman?

Dr. Wyman: That we thank Mr. Johnson for his paper and endorse what he has said in his paper.

Motion seconded and unanimously carried.

PERSONAL AND NEWS ITEMS

Dr. Lee J. Wall of Chesnee has been elected a member of the Spartanburg County Society.

Drs. C. B. Earle, E. W. Carpenter T. L. Wilson and C. H. Fair, of Greenville, attended the Clinical Congress for Surgeons the past week in Philadelphia.

Drs. J. H. Johns and W. A. Strickland have opened a fifteen bed hospital at Wesminster, Oconee County.

Drs. LeGrande Guerry and M. H. Wyman, of Columbia, have returned from the Clinics of the middle West and East.

Dr. J. E. Watson, of Anderson, returned October 1st, from Harvard where he has been taking a special course in diseases of Children.

Dr. C. R. Ross, of Anderson, is at Harvard taking a special course in Urology.

The Committee on Medical Preparednes for South Carolina met at the Hotel Jefferson in Columbia recently for the purpose of reporting to the National Committee on the Medical, Surgical and Hospital resources of South Carolina in case of war. The members present were: Dr. R. S. Cathcart, Chairman, Charleston, Dr. C. W. Kollock, Charleston, Dr. C. B. Earle, Greenville, Dr. LeGrand Guerry, Columbia, Dr. E. A. Hines, Seneca.

Dr. S. G. Glover, of Greenville, has returned from Boston where he has been taking a special course in Childrens' Diseases at the Harvard Graduate School of Medicine.

BOOK REVIEW

HOSPITAL OF THE PROTESTANT EPISCOPAL CHURCH IN PHILADELPHIA, Medical and Surgical Reports of the Episcopal Hospital, Volume III., Philadelphia. Press of Wm. J. Dornan, 1915.

As a general proposition the usual Hospital report is of little value and interest to the profession at large. The report before us, however, is a marked exception to the rule. The volume has been edited by Dr. A. P. C. Ashurst and has been made possible, it is stated, by the generosity of a friend of the Hospital.

The volume contains 356 pages, good print, paper and excellent illustrations. The first article is on the History of Anesthesia by Given. The writer gives Dr. Crawford W. Long of Georgia the credit for being the first to employ ether in surgical operations.

The report gives an exhaustive description of the works of all the parts of the Hospital, that is, the scientific activities, and will do much toward bringing the hospital to the attention of the profession throughout the country.

THE MEDICAL CLINICS OF CHICAGO.—September, 1916, Volume 2, Number 2. Published Bi-Monthly by W. B. Saunders Company, Philadelphia and London.

Among the most important contributions to this number are the following:

Clinic of Dr. Charles Spencer Williamson, Cook County Hospital—A case of syphilis of the liver.

Clinic of Dr. Isaac A. Abt, Michael Reese Hospital. Sarah Morris Memorial Hospital for Children. Feeding the normal baby with artificial foods.

Clinic of Dr. Ralph C. Hamill, North Western Medical School. Presentation of a case of Progressive Muscular Atrophy due to Syphilis of the Horn cells.

Clinic of Dr. Frederick Tice, Cook County Hospital. Carcinoma of the Head of the Pancreas.

Clinic of Dr. Joseph Zeisler, Northwestern University Medical School. Etiology and treatment of Acne.

Clinic of Dr. Solomon Strouse, Michael Reese Hospital. Diabetes in the Young.

Clinic of Dr. Joseph C. Friedman, Michael Reese Hospital. Chronic Diarrhoeas.

Clinic of Dr. M. Milton Portis, Cook County Hospital. Syphilis of the Stomach.

Clinic of Dr. Charles Lewis Mix, Mercy Hospital. A case of Myelogenous Leukemia.

Clinic of Dr. Arthur F. Beilfield, Cook County Hospital. Differential Diagnosis of a case with an enormous number of nucleated red cells in the circulating blood.

THE CLINICS OF JOHN B. MURPHY, M. D.,—At Mercy Hospital, Chicago. Edited by P. G. Skillern, Jr., M. D., of Philadelphia, October, 1916. Published bi-monthly by W. B. Saunders Co., Philadelphia and London.

Among the most interesting subjects treated in this book are the following:

Talk on Varicose Veins and Varicose Leg Ulcers.

Clinic for the Baltimore and Ohio Railroad surgeons.

A series of unclassified illustrations showing certain features of Dr. Murphy's operative work.

A series of sketches showing a method of treating ankylosis of the fingers by grafts of Costal Cartilage.

Carcinoma of Mucous Membrane of cheek. Ablation through Kocher Incision.

Melano-Epithelioma in pigmented mole of the breast with Metastases to Axilla

Ablation of tumor and enlarged axillary nodes.

Large Multilocular Ovarian Cyst of Exceptionally Rapid Growth. Ablation of Cyst.

Cicatricial Obstruction of Bladder outlet. Suprapublic Cystotomy and Plastic.

Hypertrophy of Prostrate Gland. Suprapubic Prostratectomy.

Case 1. Hyperplastic Synovitis of Knee Joint. Partial Capsulectomy. Ablation of Semilunar Cartilages. Case 2. Polyarthritis with rice bodies in knee joint. Arthrotomy with removal of rice bodies.

Talipes Equinovarus from Birth Palsy. Elongation of Tendo Achillis. Transference of Tendon of Tibialis Anticus Muscle.

INTERNATIONAL CLINICS.—A Quarterly of Illustrated Clinical Lectures, and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Paediatrics, Obstetrics, Gynaecology, Orthopaedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners. By leading members of the Medical Profession throughout the world. Edited by H. R. M. Landis, M. D., Philadelphia, U. S. A., with the collaboration of Chas. H. Mayo, M. D., Rochester. Sir Wm. Osler, Bart., M. D., F. R. S., Oxford. Frank Billings, M. D., Chicago. Rupert Blue, M. D., D. P. H., Washington, D. C., John G. Clark, M. D., Philadelphia. A. McPhedran, W. M., Toronto. J. W. Ballentine, M. D., Edinburgh. James J. Walsh, M. D., New York. John Harold, M. D., London. Richard Kretz, M. D., Vienna. With correspondents in Montreat, London, Paris, Berlin, Vienna, Leipsic, Brussels and Geneva. Volume III. Twenty-sixth series, 1916. Philadelphia and London, J. B. Lippincott Company.

The International clinics have a well defined place in the Progressive doctor's library. This volume has a large section by Lyon on the treatment of Obesity. The treatment of Neiser infection in the male by Tucker, has been cleverly presented. The author summarizes a very practical way of our knowledge on the subject. Anesthesia has been presented by Flag of New York from the standpoint of the Instructor and the student. The general subject of anesthetics at the present time is of great interest and Flag is a national authority. The illustrations are good, the printing and binding as usual, excellent.

THE PRACTICAL MEDICINE SERIES.—Comprising ten volumes on the years' progress in Medicine and Surgery. Under the general editorial charge of Chas. L. Mix, A. M., M. D., Professor of Physical Diagnosis in the North Western University Medical School. Volume IV. Gynecology, edited by Emilius C. Dudley, A. M., M. D., Professor of Gynecology, Northwestern University Medical College, Gynecologist to St. Luke's and Wesley Hospitals, Chicago, and Herbert M. Stowe, M. D., Assistant Professor of Obstetrics, Northwestern University Medical School; Attending Gynecologist to Cook County Hospital, Series, 1916, Chicago, the Year Book Publishers, 327 S. LaSalle St.

The editors call attention to the fact that much of the ordinary contributions to Gynecology coming from Europe have been cut off, owing to the war, and that the present book represents the activities to a large extent of American men. This contribution therefore, is representative of American Gynecologist and from that standpoint well worth perusal.

HOW TO LIVE.—Rules for Healthful Living Based on Modern Science. Authorized and prepared in collaboration with the Hygiene Reference Board of the Life Extension Institute, Inc. By Irving Fisher, Chairman, Professor of Political Economy. Yale University and Eugene Lyman Fish, M. D., Director of Hygiene of the Institute. Eighth Revised Edition. Funk & Wagnalls Company, New York and London, 1916.

Few books on this subject are so well balanced that they will be of special interest to both the Laymen and the Doctor. The volume before us, however, is an exception. Many works along this line are too ultra scientific for the Laymen and not a few have the same fault so far as the average practitioner is concerned. We heartily commend this book to all classes of people. It is authoritated and yet couched in such simple language that he who runs may understand.

THE PRACTICAL MEDICINE SERIES.—Comprising ten volumes on the year's progress in Medicine and Surgery. Under the general editorial charge of Charles L. Nix, A. M., M. D., Professor of Physical Diagnosis in the Northwestern University Medical School. Volume V. Pediatrics, edited by Isaac A. Abt. M. D., Professor of Pediatrics, Northwestern University School. Attending Physician Michael Reese Hospital, with the collaboration of A. Levinson, M. D., Orthopedic Surgery, edited by John Ridlon, A. M., M. D., Professor of Orthopedic Surgery, Northwestern University Medical School with the collaboration of Charles A. Parker, M. D. Series, 1916.

This is one of the excellent year books which is gradually growing in importance as Pediatrics and also Orthopedic Surgery are developing so rapidly.

A TEXT BOOK OF HUMAN PHYSIOLOGY—Including a section on Physiologic Apparatus, by Albert P. Brubaker, A. M., M. D., Professor of Physiology and Medical Jurisprudence in the Jefferson Medical College; formerly professor of Physiology in the Pennsylvania College of Dental Surgery; formerly lecturer on Physiology and Hygiene in the Drexel Institute of Art, Science and Industry. Fifth Edition: Revised and enlarged. With one colored plate and 359 illustrations. Philadelphia, P. Blakiston's Son & Co., 1012 Walnut Street. Price $3.00 Net.

There was never a time perhaps when the general practitioner, specialist or medical student needed an up-to-date work on Physiology more than the present. The Surgeon for instance is greatly handicapped without a constant working knowledge of the latest developments along Physiological lines. The vast amount of work being done, Metabolism and the internal secretions should be im-

mediately available to all classes of practitioners in surgery. The book under consideration invites perusal from cover to cover. This is the fifth edition.

CONSTIPATION, OBSTIPATION AND INTESTINAL STASIS—Second edition, enlarged. Constipation, Obstipation and Intestinal Stasis by Samuel Goodwin Gant, M. D., LL.D., Professor of Diseases of the Colon, Sigmoid Flexure, Rectum and Anus in the New York Post-Graduate Medical School and Hospital. Second edition enlarged. Octavo of 584 pages, with 258 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Cloth $6.00 net; Half Morocco $7.50 net. W. B. Saunders Company, Philadelphia, London.

The first edition of this work appeared in 1909. Was reprinted in 1910. Revised thoroughly in 1916. The subject matter, the illustrations, the printing and the binding are above the average in excellence. The anatomy and physiology take up the first fifty pages. Then the etology and constipation. A very large section of the book has been given over to the medical and surgical treatment of constipation, in all its forms. We would call special attention to chapter 27 in which has been presented a working formulary from various authors of prescriptions for the relief and cure of constipation in its different aspects. As would be expected Lane's brilliant work on the intestines has been reviewed and commented upon pro and con.

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ANNOUNCEMENT.

Dr. T. P. Whaley of Charleston wishes to announce to the Profession of South Carolina that he has returned to general practice.

If you think of taking a

Post Graduate Course

in New York doctor, The Journal has something interesting to offer.

The Journal OF THE South Carolina Medical Association

Published Every Month Under the Direction of the Board of Councilors.

Entered as second-class matter February 9, 1916, at the post office at Greenville, South Carolina, under the Act of March 3, 1879.

Annual Subscription, $2.00. EDGAR A. HINES, M. D., Editor-in-Chief, Seneca, S. C.

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EDITORIAL

The Southern Medical Association.

The meeting of the Southern Medical Association in Atlanta last month under the presidency of Dr. Robert Wilson, Jr., of Charleston, was a phenomenal success from every standpoint. Especially interesting was the Public Health Program, emphasizing the fact that this is one of the most important phases of the doctors acivities in the Southern States.

Pediatrics came in for a large share of attention appearing first on the program in the section on Internal Medicine. As a result of the growing importance of this branch of medicine in the South a section on Pediatrics was established and Dr. William Weston of Columbia was honored with the chairmanship. Memphis was selected as a place of meeting in 1917.

Medical College Open to Women:— Public Health Chair:— Special Lectures.

The Medical College of the State of South Carolina has opened its doors to women. The Journal took a decided stand in favor of this step when the College was taken over by the State in an editorial on the subject but was beginning to fear nothing would be done about it. We are delighted to announce the privileges of that splendid institution will be no longer restricted to men.

Again it is probable a Chair of Public Health will shortly be inagurated and this is a good move. Is it not probable that the practicing physician sometimes becomes an obstructionist in the path of preventive medicine, on account of lack of early

training along public health lines and just here the over enthused layman looms up as a leader instead of the physician.

This should not be so and will not be so if the physician has a reasonable education in public health matters. The College has begun a series of lectures by distinguished men from other sections of the State—one each month. Such lectures will bring the wisdom and experience of the firing line to the students in an attractive way.

The New County Secretary and the New President.

The officers of the constituent societies for the ensuing year have been elected and the future awaits their efforts. Practically every society will have a new president and there is much that such an officer may accomplish. First of all he should not turn over everything to the Secretary and retire at the outset upon his honors and from further active service. The personal touch of the president in everything that pertains to the work of the Society will bear rich fruit. Few Secretaries will not be reelected and here abides both success and failure. This office requires a man or woman of rare gift by nature and training to assure the best results. The State Association is fortunate in being served by a number who meet the tests. We are especially fortunate in that some of our largest and most successful societies have women as secretaries.

Membership Exceeds all Records.

The paid up membership of the South Carolina Medical Association at this writing exceeds all previous records. It is gratifying to the faithful officers who have worked in season and out of season to bring about such a promising condition of affairs.

There is a stimulus in mere numbers beyond question. As our membership mounted up so does our enthusiasm. Let the good work increase in 1917!

Compliments of the Season.

The Journal will reach our readers during the holiday season and we wish to extend most cordial greetings.

During the year we have made marked progress. The Journal has had the heartiest co-operation from all sections of the State. The Association and the Journal have never been more prosperous and this is but a reflection, we believe, of the general condition of the individual membership.

We have plans actively under way for larger things in 1917 and confidently expect to go forward with renewed impetus and enthusiasm.

President and Secretary Visit Societies.

The President and the Secretary of the State Association have made unusual efforts to visit the various constituent societies during 1916 and will continue to do so until the meeting at Spartanburg in April. Our observations and the interest aroused have been in the main, highly satisfactory. We desire to encourage further invitations which will be responded to wherever practicable.

Quite a number of our Societies know no County lines when it comes to great hearted hospitality but overflow into nearby counties and States. We were cordially received at Florence by the Pee Dee District, also Bamberg, Chester, York, Spartanburg, 5th District at Rock Hill and others.

Reports reach us that many of our

smaller societies are doing excellent work, such as Chesterfield, Sumter and Pickens.

The Legislature.

In a few days the Legislature will convene and the State Medical Association will be vitally interested. Revision of the Medical Practice Act will be our most important undertaking and every effort should be made by our members to aid the legislative committee in this matter.

The State Board of Health will come in for serious consideration, and we should be sure to take no backward step by failing to properly inform our representatives of the great work already accomplished and of how urgent the need for further Public Health measures.

The Medical College to become the great institution it deserves must have careful consideration for years to come at the hands of the legislature.

An institution for the feebel minded may come up as an administration measure. It is but just that the influential members of the profession look into the matter and if we really need such an institution now, support the proposition. Certainly some provision should be made for this class of our citizens.

ORIGINAL ARTICLES

ABDOMINAL CESAREAN SECTION, INDICATIONS, TECHNIQUE, CASE REPORTS.

J. R. Young, M. D., Anderson, S. C.

Bibliography.

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(b) G. W. Williams—S.G.O. Vol XXI. 541.
(c) R. F. Frank—Johnson's Operative Therapeutics, Vol. V.
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(e) Dr. Emil Rice—(Discussion of Dr. Holmes' paper) S.G.O., Vol. XXI., 664.
(f) Wm. R. Nicholson—S.G.O., Vol. XVIII., 244.
(g) Stewart Laurens—S.G.O., Vol. XX., 355.
(h) Reuben Petterson — Reprint from American J. Obst. and Dis. Women and Children Vol. LXIX., No. 6.
(i) Gellhorn J.A.M.A., Vol. LXIV., 196.
(j) A. B. Davis—J.AM.A., Vol. LXIV.—466 Obstract from A. J. Dis. Women and Children, Vol. LXXI., No. 1.

*Read beore the South Carolina Medial Assoiation, Charleston, April 19, 1916.

WE do not propose in this paper to give an exhaustive essay on the subject of abdominal Cesarean Section, but for those who are interested a bibliography is appended which will refer to some excellent recent articles on this subject. Nor do we presume to speak as one having authority derived from wealth of clinical experience. Our experience is quite limited and we pose only as an interested student of this ancient, but modernly vitalized obstetrical operation. We shall discuss (1), the scope of this operation according to recent opinion, (2) the results which follow the more extensive use of this operation, (3) the technique or type of operation considered from a surgical standpoint, (4) a few brief case reports, with conclusions.

I. Scope of Operation.

This ancient operation performed in obedience to law in the days of the Caesars upon dying, and recently dead

women with the hopes of saving child in utero has developed, since the advent of aseptic surgery, into a well grounded procedure of Surgical Obstetrics. Its performance may be considered in any case where there are definite and urgent indications for emptying the pregnant uterus. This wonderful development in the scope of this operation has been largely within the last ten or fifteen years. This truth conno be better shown than by the following quotations: Edgar, in his Practical Obstetrics published in 1903, says: "Even under best circumstances Cesarean Section is always a dangerous operation." Over against this consider this recent statement from Holmes of Chicago, (a) "Any one who has mortality of five per cent. or over following Cesarean Section should revise his indications for the operation." This again from Edgar "Eclampsia and placenta praevia have been put down by some as conditions which may occasionally demand Cesarean Section; however, while it is conceivable that in former operation might be done, it is safe to say that placenta praevia will never demand it." Against this the following recent statement from Williams, (b) "When diagnosis of concealed accidental hemorrhage is made the indications for treatment are simple. In this event the operation of choice is abdominal Cesarean Section, except in those rare cases where cervix is fully dilated when the patient is first seen. But under all other conditions I am convinced that immediate abdominal Cesarean Section will be most conservative procedure for mother, and only we that offer slightest chance for child."

These statements we think fairly well measure not only the development of the operation itself, but also show the change of mind of the profession in regard to scope of operation. What then is scope of this operation when is it indicated?

Absolute Indications.

(1) Pelvis Contractions. (c) All authorities agree that contraction of pelvis that precludes birth through normal passage is an absolute indication if child is living and mother uninfected. The degree of contraction that may thus demand this procedure is given by most authorities as a contraction in which true conjugate is 8 1-2 c.m. or under, and when we recall that true conjugate is normally 11 c.m. this does not appear an extravagant minimum.

(2) Tumors—bone tumors, fibroid of uterus, cysts of ovary—that completely block outlet.

(3) Dense stenosis or distortion of soft parts.

When it comes to relative indications opinions is by no means uniform, but I think the weight of authority would subscribe to the following relative indications.

(1) Disproportion between head and pelvis which has resisted test of labor. A pelvis with true c of 8 1-2 or 9 1-2 c.m. will make it extremely improbable that living child can be extracted and Cesarean Section will then compete with pubiotomy, craniotomy as means of delivering.

(2) Pronounced obstruction to birth passage from any cause—pelvic tumors, cancer of cervix, advanced cancer of rectum, dystocia due to ventrofixation.

(3) Placenta Praevia centralis if bleeding is severe and cervix rigid.

(4) Premature detachment of normally situated placenta if symptoms show severe bleeding and cervix is rigid.

(5) Eclampsia if birth pasages are totally unprepared and mother uninfected.

(6) Uncompensated heart lesion. (Rarely).

Certain extremists have advocated Cesarean Section as a method of delivery to be considered among such well established procedures as medium or high forceps delivery, version or induction of premature labor by elastic bag, and even claim that it is justifiable in face, brow or post occiput position. (d) Holmes claims (a) that a veritable "Furror operative" for Cesarean Section is spreading among the profession as was the case with oophorectomy 25 years ago. That there is some ground for criticism is shown by the following report—Cesarean Section done with fatal results on mother of four children because she had gone one week over her calculated time. Such abuse of the operation is regretable, but it should not be charged against the operation itself, but to the "grand stand" streak in the operator.

Just as there are absolute and relative indications, so there may be absolute and relative contra-indications.

(1) Dead fetus, Cesarean Section absolutely contra-indicated.

(2) Living baby and badly infected mother, Cesarean Section contra-indicated.

(3) Patient who has been repeatedly and carelessly examined, or who has been subjected to prolonged efforts towards delivery, even if she had no fever, should be considered infected. In such cases Cesarean Section should not be done unless danger is fully explained.

In other words Cesarean Section should only be chosen as method of delivery where it offers best chance of life for mother and child.

What results can Cesarean Section show, or what is mortality and morbidity?

Any operation that is performed for such a variety of causes must necessarily show an equally varying mortality, and a fair idea of the results of this operation can only be had by grouping the cases according to indications for operation.

Between 1891 and 1896 the mortality (maternal) for Cesarean Section done for all causes was 38 per cent. By 1902 this had been reduced to 20 per cent., and by 1904 it had fallen to 12 per cent. (f) This wonderful improvement was due not only to rapid progress that was made during this period in aseptic surgical technic, but also to better selection of cases. The pioneers in this field early recognized that the seriously infected women, or one who had been subjected to repeated attempts at delivery, made a poor risk for Cesarean Section. Acting on this information they advised that the operation, when indicated, be done early and not as last resort. And in proportion that an operator to-day heeds this advice will he be able to report a low mortality. To-day the mortality for Cesarean Section done in clean cases and for mechanical causes (contracted pelvis, etc.), is scarcely higher than that negligible mortality which obtains in all abdominal surgery. Nicholson reports a group of 500 such cases done by three operators in which mortality was 1-3 per cent. (1-3%).

In that group of cases which the Germans call "neglected cases" in whom infection cannot be demonstrated, but who have long been in labor with membranes ruptured, and have been subjected to several questionable examinations the mortality following Cesarean Section done for mechanical causes is given as ranging from 8 to 16 per cent. (f. g.)

What results can be shown in Cesarean Section done in eclampsia, and how does this compare with mortality

of cases treated otherwise? Some writers still give 40 or 50 per cent. as mortality following Cesarean Section done in eclampsia, but (h) Petterson in a critical review of 500 cases of abdominal Cesarean Section for Eclampsia clearly shows that these figures are not now true. He shows that mortality during the last five or six years has been reduced from about 50 per cent. to about 25 per cent. And, that this figure can still further be reduced by operating early before trying other plans, he shows by reporting series 91 cases operated by 13 men with mortality of 18 per cent. and a smaller series of sixty cases where operation was done after few convulsions with mortality of only 15 per cent. These figures compare well with the 20 or 30 per cent. maternal mortality which usually follow eclampsia treated by other methods. And the fetal mortality is relatively much more favorable the same writer reporting a series of 248 cases with immediate fetal mortality of only 3.6 per cent. whereas in Eclampsia treated medicinally, or by emptying uterus through natural passages the fetal mortality is from 35 to 50 per cent. (Edgar).

Before leaving this phase of the subject this fact, which has been emphasized by many writers, Holmes, Petterson and others, should be mentioned, Eclampsia per se is not an indication for Cesarean Section, but "any obstetric condition which makes delivery through natural passage prolonged and difficult may be an indication for abdominal Cesarean Section in Eclampsia. When such condition is promptly recognized and abdominal Cesarean Section done before convulsions occur and before any attempts are made to deliver from below, both mother and fetus will in our opinion have been given best chance of life.

What About Morbidity Following Cesarean Section?

(1) Does this operation jeopardize the future reproduction capacity of uterus? This can be definitely answered in negative as there are now hundreds of cases in which operation has been performed repeatedly on same patient. Davis in reporting series 571 cases abdominal Cesarean Section had 78 cases upon which Cesarean Section had been previously done from 1 to 5 times. (j).

(2) Does this operation, once performed, necessitate its performance at subsequent labors? This can also be answered in negative, with this caution added. At each subsequent labor, progress should be closely watched and first symptoms of serious dystocia should be signal for interference.

(3) Is the uterine scar liable to rupture during subsequent pregnancy and labor? This is very improbable but its occurrence has been reported in twenty-six cases. When we recall that this accident (rupture of uterus) happens once in a thousand natural deliveries (and according to Williams much more frequently than this), and has only been recorded as happening 26 times, (f) while being closely watched for in the many hundreds of thousands of patients who have had this operation, we must conclude that rupture of uterus is an extremely improbable sequel. So morbidity is negligible.

III. The technic of this operation will not be discussed at length, but the relative merits of the classical, and Davis type of operation, and the low or so-called extra peritoneal type will be considered.

The so-called Cesarean Section was devised by Sanger in 1882, and consisted in long median line abdominal incision, eventration of uterus, and median vertical incision of uterus from

inter-tubal line downwards. After delivery the wound in uterus was closed at first with silver wire and in later years with cat gut.

Davis of N. Y. Lying-in Hospital suggested improvement which has been generally adopted in this country at least. His left para median incision, about 4 1-2 inches long, is made entirely above umbilicus; the uterus is not delivered from abdomen, but is made to present into abdominal wound by lateral pressure from hands of an assistant. The peritoneal cavity is protected by large abdominal packs. The four inch median vertical incision into uterus is then made and fetus delivered in usual way. The two layer cat gut closure of the contracted uterine incision is facilitated by guy sutures at each extremity held taut by assistant. The advantage of this method:

(1) Ease of performance.

(2) Ventro-fixation avoided, Abdominal scar not on same level as scar in contracted uterus.

(3) Smaller abdominal incision and hence less danger of hernia and capable of being done more quickly.

(4) Done with local anesthesia.

As opposed to this high intra peritoneal method of Davis there is the low extraperitoneal type devised in 1907 by Frank, of Cologne. It was worked out with the hope that it might be safely used in delivering infected women in whom the mortality was very high following intra peritoneal operation. The plausibility of the plan was shown by the enthusiastic reception accorded the operation, and in short time some twenty modifications had been suggested. (f). From the following brief description it will be seen that the operation is transperitoneal, and not extra peritoneal. The Veit-Fromme technic is perhaps most popular of various modifications, and is as follows: Trendelenburg posture, median vertical incision to parietal peritoneum from symphysis to point two inches below umbilicus; parietal peritoneum incised from top of bladder upwards, about four inches, to point corresponding to situation of lowest area of firmly attached uterine peritoneum; uterine peritoneum is incised to identical degree, and the two leaflets of peritoneum, perietal and visceral are whipped together with cat gut, leaving a denuded four inches oval, or button hole, in which presents the lower uterine segment. A vertical incision is made in this and fetus delivered with forceps. The uterine incision and abdominal wall closed usual way.

A few years experience with this method proved that it could not be safely used in seriously infected cases, but it was found that in neglected cases it gave better results than the intra peritoneal method. And now this method is advocated by many (Selheim, Gellhorn, Hirst), as being best in all cases. It is claimed that following its use there will be:

(1) Absence of adhesions, (i)

(2) Less chance of infection.

(3) Less bleeding.

(4) Wound should heal more perfectly in that it lies in portion of uterus at rest.

On the other hand, the operation is more difficult, the danger of wounding bladder is greater, the delivery of child through smaller incision more delicate in this method than in classical type and for occasional operator the intraperitoneal will be method of choice except in neglected cases.

IV. Case reports will not be made in detail. Five of eight sections I have done were in eclampsia or toxemia. Two on same patient were for pelvic deformity. One for premature separation of placenta with no dilata-

tion of cervix. All babies saved except three that were premature (5 months). One mother lost from eclampsia. From this limited experience no general conclusions may be drawn, but I have been impressed with the smooth convalesence, and the absence of all symptoms suggesting subsequent adhesions. In the case twice operated the uterine scar of first section was scarcely discernable. This patient was sterilized at second operation, at her request, which appeared reasonable on account of crippled condition of twenty years standing due to ankylosis of both hip joints.

While it is not permissable to draw conclusions from a series of seven cases, I have collected series 80 cases done by 12 operators in this State with maternal mortality of 16 per cent. and fetal mortality of 23 per cent.; and excluding children who were dead before operating, or were premature the fetal mortality was only 2.7 per cent. These figures do not compare unfavorably with those reported by A. B. Davis who in series of 500 cases had maternal mortality of 10 per cent. And in his series the indications of contracted pelvis was relatively much more common. In this series of 80 cases there were 42 eclampsias with maternal mortality of 23 per cent., and fetal 33 per cent. Excluding premature infants and those dead before operating fetal maternal was nil.

Davis' mortality in Eclampsia cases was 37%.

Conclusion.

Abdominal Cesarean Section has an established place in Surgical Obstetrics. Where absolutely indicated for mechanical reasons its performance should be early decided upon and patient not subjected to test of labor.

Its success will vary inversely with chance of previous infection.

Eclampsia is not itself an indication for Cesarean Section, but any obsetetrical condition which precludes rapid and safe delivery through natural passage is an indication for Cesarean Section in eclampsia.

It is preeminently important that Cesarean Section, when indicated, be done early in eclampsia before the narrow margin of safety is effaced by low extra peritoneal type devised in repeated infection—inviting examina tions and attempts at delivery. This should not be forgotten—when the uterus has been thus emptied the treatment is not completed. Only the "toxo-genetic" focus has been removed and the further elaboration of the eclampsia producing poison stopped. The patient will recover or succumb according to whether or not she is already hopelessly saturated with the kidney and liver necrosing poisons of eclampsia.

Placenta praevia and premature separation of normally situated placenta do not demand Cesarean Section if soft parts are prepared for rapid natural delivery. In short, any obstetric situation that may confront us whether it be a problem in mechanics, as an impacted shoulder presentation; or urgent pathology; as toxemia; hemorrhage, or poorly compensating heart lesion, should be indication for Cesarean Section if it appears that this operation offers best chance of life to mother and child.

And finally, the results which have been secured by twelve operators in widely separated parts of this State compare favorably with results secured by such a master as A. B. Davis. This gratifying record might in future suggest that in case you have an obstetrical problem which in your judgment could best be solved by prompt Cesarean Section you have in your community an operator who can deliver the goods.

DISCUSSION:

Dr. G. Fraser Wilson, Charleston, S. C.

I enjoyed Dr. Young's paper very much indeed, especially as being the first paper we have had. The urologists seem to have had everything their way, so far.

I want to heartily commend his remarks on Dr. Davis' operation, which, to my mind, is the only one. He brought out all points there, possibly, with the exception of the least liability to hernia.

The transperitoneal operation is another good operation, or the best we have in those infected types, and Heinreich's results in 75 cases have been exceedingly good. In Dr. Davis' 10 per cent. we must remember that he had to contend with that very factor of bad infection,—the very worst infection that you could possibly see, with the impossible class of doctors you often see, especially in the East Side of New York City, and it is wonderful that Dr. Davis can even get as little as 10 per cent. on his results. Williams does, at times, and Lee does, to some extent.

The very best results we have in this country by Cesarean Section is about 23 per cent. Hopkins 20 per cent.; Lying-In, about 23 per cent. and Hirsch's results in Philadelphia all run along the same line. The vanguard is turning. Williams is using this treatment, and the results are much better than they used to be. McPherson at the Lying-In has gone crazy on the subject.

In going back to the indications I felt sure that he was going to overlook the contracted outlet of the pelvis, like most men do. All the obstetricians to-day teach you the measurements of the inlet of the pelvis, but omit very often the measurement to the outlet of the pelvis. On a measurement of many cases that I have done I have found that the outlet was contracted very much more than we usually think.

Dr. Lane Mulally, Charleston, S. C.

Mr. President, I think that this is a very interesting subject. There is just one point in the Doctor's paper, however, that I wish to take issue with. Of course, in contracted pelvis there is no doubt that Cesarean Section is indicated. If I am not mistaken, however, I understood the Doctor to say that he thought it better to do Cesarean Section before the term approached. I may be mistaken in this. I have had, in my limited experience here, several cases of Cesarean Section for contracted pelvis, and I have invariably waited until full term, or, in other words, until labor began, and as soon as labor began, then Cesarean Section was performed, with a mortality of—in all cases—a live child and a live mother.

In peurperal eclampsia; I desire to take issue with him on one point, and that is, that "eclampsia, per se, is not an indication for Cesarean Section." I believe that it is, and I believe the reason why operative procedure has not obtained—may I say the good mortality that others claim who have treated it by the use of morphine is because these cases have started out or have been started off by medical treatment by the use of chloral, morphine, etc., and then, as a last resort, when that treatment failed, they were turned over to the surgeon and a Cesarean Section performed, when it was too late. I believe that is the reason these gentlemen can report such good mortality in puerperal eclampsia.

There is no question in my mind, if you are called to the patient after one convulsion, or perhaps a few, and do a Cesarean Section, the mortality would be less than 6 per cent. The

trouble about it is that the per cent. is raised, because, I believe, medical measures have been tried out first, in many cases.

I have had twenty-three cases of Cesarean Section for puerperal eclampsia. These have been cases of the worst type. I have had them with convulsions that have been counted up to eighteen, twenty, or more, and have delivered many of these women by Cesarean Section of a live child, and seen them go out perfectly well, and come back in another eighteen months begging for another Cesarean Section.

I might say that I think, while sepsis is to be considered, yet it does not play as important a part in these cases as one would expect. I believe that Cesarean Section is indicated in all cases of eclampsia, particularly in primipara, where you find an undilated os, I believe that in these cases and also in multipara, where you make one examination, that is all that is necessary, and find an undilated os, that if you immediately, before the woman is overcome by toxemia—

(Time called, but upon motion, extended.)

In these cases if this practice was carried out, you would have a mortality among your women and children of less than 6 per cent.

I reiterate, I believe that the reason the mortality in Cesarean Section is so high, men wait and the medical treatment is tried out and then they do a Cesarean Section, and, unfortunately, Cesarean Section gets the blame of the mortality.

I thank the Doctor for this paper.

Dr. J. R. Young, Anderson, S. C.

I would say that when a Cesarean Section is absolutely indicated that it should be done early, before the test of labor. I mentioned, however, that it should be started with labor.

I do not think that I disagree with Dr. Mulally with regard to eclampsia. I said that eclampsia, per se, is not an indication for Section. If you can deliver promptly with forceps without shock, it is better than Cesarean Section; but where you have the undilated os and rigid soft parts, that constitute the indication and not the eclampsia alone.

TUBERCULOUS PATIENTS UNSUITED FOR SANATORIA.

By Ernest Cooper, M. D., Supt South Carolina Sanatorium.

At the South Carolina Sanatorium for Tuberculosis more patients have been rejected than have been accepted. Since this large refusal of applicants has occurred I have thought it worth while to say something concerning patients unsuited for sanatorial care. Had the physicians of the State understood that the function of the Sanatorium is the arresting of disease, with a continuance of treatment at home until recovery, we would not have such a large number of rejections.

Far advanced cases, that is, those with marked impairment of function, local and constitutional, extensive consolidation of an entire lobe, disseminated areas of beginning cavity formation or serious complications are unsuitable for our treatment. They usually have fatal complications, such as laryngeal, intestinal, renal, or other involvements in conjunction with the pulmonary trouble. I will cite two of such cases, sent by reputable physicians, who said that there was a reasonable hope of cure. One patient was referred by a doctor in the upper part of the State who thought him

Read by Dr. Ernest Cooper at the Annual Meeting of the Lexington County Medical Society in October, Gilbert, S. C.

a "good incipient case." When the patient arrived at the Sanatorium, it was found that he could hardly walk, was very emaciated, running a high temperature, rapid pulse, had a large cavity in the right apex, with complete involvement of the left lung. This patient was returned home where death came to his relief after fourteen days. He should never have been subjected to the exertion, expense and inconvenience of coming to the Sanitorium.

Another from the central part of the State was accompanied by his family physician who had great hope for the patient's recovery. Examination revealed that he was very far advanced—both lungs extensively involved, with cavitation; extreme emaciation, intestinal complications and diarrhoea. He went home and died soon afterward. Such mistakes are nearly always due to hasty and incomplete examination of the patient, although in a few instances, the patient is sent to the institution to die, in order to rid the community or the doctor of responsibility. Cases such as these with high temperatures, night sweats, profuse expectoration, severe dyspnea, cavitation and extensive lung involvement are wholly unfit for sanatoria and cannot be benefited by going to them.

Advanced laryngeal cases are very unsatisfactory and unsuitable. There are two types of laryngeal—the ulcerative form, and one in which there is no pain—the fibroid type. We entertain hopes for the latter, but are without any hope whatever for those suffering from the painful form, because they cannot eat enough food on account of the pain and consequently slowly starve to death.

Another very unsuitable form for sanatorial care is the intestinal. It is practically always secondary to wide-spread pulmonary lesion and is due to swallowing infected sputum or infected food. All that can be done is to check the profuse and exhausting diarrhoea with some preparation of opium. Such cases are better off at home, as it is only a matter of time until the end.

Another form of tuberculosis we advise to remain at home or go to a surgeon is the renal, as we can not benefit them. Surgical interference may prolong and make the patient's life more comfortable for a time, but, as a rule, the other kidney finally becomes involved also.

Patients with tuberculosis of the bone are not proper subjects for treatment in our sanatorium. As you know, surgical interference is indicated more or less, and a general hospital is the place for patients of this class. This form of tuberculosis is being treated very successfully by surgeons to-day.

When a tuberculous patient suffers very rapid loss of weight and fails to respond in due time to the usual hygienic-dietetic open air treatment, there is probably a general miliary involvement, which can not be relieved any where. Such patients should not be sent to the Sanatorium.

Tuberculous meningitis is another hopeless and fatal complication. Death usually comes within three weeks after the first symptoms appear. These cases are out of place in an institution where only cases that show a reasonable hope for recovery are received.

Young mothers who break down soon after confinement have a very poor chance to regain their health. It is harder to get their resistance back than for almost any other class, as their vitality and strength are taxed to the limit to recover from childbirth. Applications from such pa-

tients should not be accepted until it appears that recuperation may occur.

Patients advanced in age are unsuited for sanatorial treatment—not so much on account of their pulmonary involvment, but because of their set habits and their love for home. They soon become restless and homesick. It is difficult for them to become adjusted to the rules and regulations of institutional life. They worry and fret and thus annoy other patients. Hence, I think they should be classed as unsatisfactory for treatment in a sanatorium.

Cases with pronounced neurasthenia or other nervous disorder are very unfit for institutional treatment. The nervous complication lowers their resistance so that they keep going down until they are past any help that might have been given them. Moreover, they are disturbing factors, exciting other patients and keeping them on nervous edge which retards their improvement too.

In conclusion let me impress upon you that the success of the sanatorium depends upon the class of patients you send to us. We are striving to do good, where good can be done. Therefore, help us by eliminating these unsuitable cases and by sending early and moderately advanced patients.

THE STATE'S DUTY TO THE FEEBLE-MINDED.

By A. Bethune Patterson, M. D.,
Barnwell, S. C.

Mr. President and Gentlemen of the South Carolina Medical Assn.:

SOUTH CAROLINA for a hundred years or longer has occupied an enviable position as the brightest star in the galaxy of States that go to make up this great republic. She has abrogated to herself the distinction of being peculiarly selective and distinctive; boasted of her distinguished citizenship, of her distinguished men, made famous the world wide by their chivalry, and statesmanship—their high and advanced idea of political and social life. There was a time when our neighbors were willing to accede to our contentions, thus disposed, they have forged ahead and to-day their great achievements require that we become more active and progressive, or lose our place in the front line of political and social strength. We have been very busy of late in looking into various matter of social and political economy, in fact, the little we have done, has been suggested by what has been accomplished by our Eastern and Western neighbors, who regard us as subjects of missionary work. Time and again they have sent public lecturers to enlighten us on progressive methods for the general good. This is undoubtedly a grave reflection upon our interest in our social and political institutions. Surely our inherited intelligence, our social sympathetical and generous dispositions cannot be gainsaid. The subject matter of this address deals with a subject that appeals to our charitable and sympathetic nature. One of the gravest matters of public interest before us; one that deals with our social and moral welfare, as well as a financial problem, is what are we to do with our feeble minded and other dependent classes, which have blocked the State hospital, crowded our penal and charitable institutions at a very heavy expense to the citizens. The care and protection of the feeble-minded in America is not of recent date, exactly how far back organized methods were formulated and put into

*Read before the South Carolina Medical Association, Charleston, April 19th, 1916.

execution, I am not informed, but I recall in 1879 or 80, I became interested in a series of articles, which, I think, appeared in the New York Medical Record on training and educating feeble minded children. I was so impressed by the marvelous work and accomplishments of the philanthropic men and women, who were working out a great human problem, as to what could be done in disciplining and training the defective intellect. At that time I was brought daily in contact with a boy about ten years old; the son of a distinguished citizen, whose mind was out of the rule. Some effort was made to teach him his letters, but never with success; physically the boy was perfect. I visited the father in behalf of the boy and told him what was being done for children of his class, the wonderful success that rewarded the labors of the men and women working for the uplift of this helpless class. Nothing was done and the boy grew up in idleness and illiteracy; has never developed any vicious tendencies; very bright and intelligent along some lines; amiable and very accommodating. He has become the pet of everybody who is brought in contact with him. There is no doubt that he could have received some education; he has a wonderful memory, grammatical and fluent in speech. Could have become a useful and self-supporting citizen. He is supported by a legacy. He has always enjoyed the protection of a home influence, and his social daily environment excellent, but for the latter, he possibly would have become an outcast and possibly a criminal. The question as to what is the State's duty towards the dependent class under discussion, has been fully answered in a practical way by New Jersey, Massachusetts, Indiana, Ohio, Minnesota, New York. This gigantic problem is now before us for solution. It is not a question so much for the layman as for the medical men, because it deals with a physiological as well as sociological and economical conditions. I call upon you as a representative body of the medical profession to use your talents and influence in disseminating the facts and conditions in their entirety, in your respective communities, that from every section, from every home a demand shall be filed with our law-making bodies for the State's care and protection of the feeble-minded, a class that appeals to our intelligence and sympathies. Read what some of the Northern and Western States are doing, how they are going in to the penal and charitable institutions, taking this class out of an environment that is intensifying their sorrows, and the degrading tendencies which dominate their class, segregating and homing them under the care and tutelage of scientific, humane and philanthropic workers. The establishing schools, homes, workshops and field industries and in fact a number of the crafts and industries, by which they become self-supporting and not an expense and disgrace to the commonwealth, a condition prevailing in this State. A report comes from the State's reformatory at Florence, that nearly fifty per cent of the inmates are feeble minded, nearly all of them sent there by order of our courts. In the State Hospital for the Insane, in the penitentiary and chain gangs, to say nothing of the County almshouses or rather poor houses, a large per cent are of this class. These institutions show that the methods of management are not entirely in keeping with modern ideas and practices.

The State of South Carolina is called upon to segregate the feeble-minded; place them in institutions where

they can be trained, thus the feeble and dormant intellects can be stimulated into activity; brought out of mental darkness into a human and Christian light; ambition stimulated, reason made active by contact of humane and Christian sympathies and influences. By patience and years of intelligent work, systems have been collaborated of restraining the immoral and vicious tendencies observed in a large per cent of the feeble minded a metamorphosis almost unbelievable. It is said by those who have analyzed the statistics, that at least seventy per cent. of feeble-mindedness is inherited. It, therefore, becomes imperative upon the State to arrest as far as possible the further propagation of mental weakness. The feeble-minded girl, unprotected, becomes the transmission center. She becomes the prey of sensual men, of her illegitimates at least sixty per cent. are defective, when father and mother are feeble-minded it is often the case that all of the children will be defective. Of the unprotected class, nearly all become irresponsible criminals and public charges. Our Courts do not enter into the mental status of those who are charged with crime; the strong hand of the law is laid upon them with the same severity as the responsible. In the name of humanity, in the name of Christian civilization, is not this a serious and grave reflection. The State should take them at an early age, train them to be useful, self-sustaining, contented and happy; segregate and exclude forever the chance of reproducing their kind. The bulk of feeble-minded are located in our public schools where the average teacher has not had it suggested to her that the cause of the backward and incorrigible, the rebellious to law and order, is found to be in the mentally defective.

I was the author of a bill a few years ago, requiring the teachers in public schools to use the Binet system of mental measurement. I failed to make the senators understand the usefulness of the system. Good grew out of the agitation, for since that time, the system is being used in some of our schools. It is by this system that the feeble-minded are to be weeded out of the public schools, and provided for by the organization of special classes, in which they will be managed and trained by teachers who understand the modern method of dealing with the feeble-minded. In the work of establishing farms, workshops of the various industries, suitable to the different degrees of feeble mindedness, we have the concentrated influence and advice of the State Board of Charities and Corrections.

GENERAL PARESIS — DIAGNOSIS AND TREATMENT OF.

By J. F. Munnerlyn, M. D., Assistant Physician, State Hospital for the Insane, Columbia, S. C.

THE usual clinical picture of general paresis is a progressive mental deterioration leading to complete undermining of the whole mental and physical personality.

According to the best evidence obtainable, general paresis is only about two hundred years old, it depends absolutely upon previous syphilitic infection and usually comes on after an interval of about five to twenty years.

The earliest detailed and unmistakable description of this disease, which in its true form is particularly distinctive, seems to have been given about the end of the eighteenth century by Haslam, however, the first

Read before the South Carolina Medical Association, Charleston, S. C., April 20, 1916.

clear presentation of the clinical relationship of the mental and physical symptoms was by Bayle in 1822. Thus a period of over three hundred years elapsed between the earliest recognition of syphilis and that of general paresis; for, if our historical information is correct, syphilis was introduced into Spain in 1493 by Columbus' sailors, who had become infected in the island of Hayti, and the next year it spread as a fatal epidemic to Italy and France. It is practically conceded now by the present day authorities on Dementia paralytica that "no syphilis no paresis." Collins of New York who has made a study of one hundred cases of paresis, recently stated "that general paresis is a syphilitic disease of the brain" is now universally admitted. The text-books still teach that sexual and alcoholic excess are important contributory factors to the causation of general paresis, but the text books of the future must say that general paresis is always a syphilitic disease. Less than half the patients admit syphilis or give indications direct or collateral that it has occurred, but study of the cerebrospinal fluid and blood serum of these patients gives information that satisfies me that the disease has its origin in syphilis in every instance. But fortunately syphilis does not by any means necessarily lead to paresis. The most recent studies of Meteer show that about 2% of those infected by syphilis develop paresis. Of the ten cases reported in this paper, nine showed a positive Wasserman reaction of the blood serum—the one negative case giving a history of receiving several injections of Salvarsan a short while before coming under our observation, but a history of syphilis ten years previous to his admission to the Hospital.

The disease is more frequent among men of ability in professional or business life than among the ignorant and uncultured. Its early recognition is of far reaching importance, affecting not only the patient himself, but frequently it has important bearing upon business and family ties. Upon it depends almost always, important legal measures, especially of a domestic nature. White states that from a careful study of the cerebrospinal fluid, "the preparetic period has been diagnosticated as long as two years before the onset of the disease. This point is well to bear in mind when one's advice is asked as to the advisability of marriage of syphilitics in the forties. It is not at all an infrequent experience to find the outbreak of paresis occurring in men of from forty to fifty, who have been from one to three years married, and many have waited this long, feeling that because of any early syphilis it were wise to defer marriage until a safe period. Realizing the importance of this fact, it may be said that the only safe rule to follow, when patients come seeking matrimonial advice and give a history of syphilitic infection, is to subject all patients in whom one hesitates to make the diagnosis, to a laboratory examination of the blood and cerebrospinal fluid. Obviously the early recognition of paresis constitutes one of the most important duties of every physician, whether he be general practitioner or specialist. The greatest difficulty, of course, arises at the beginning, while the physical and mental symptoms are still indefinite; Kraepelin states, however, that we may here apply the rule that in the case of a mental affection without obvious cause, commencing for the first time at middle life, especially in men, paresis should always be thought of.

The mental symptoms may be ushered in by a mild depression, irritability, feeling of pressure on the head, sleeplessness, vertigo or easy fatigue, the so-called pre-neuraesthenic stage, weakness of memory, disorder of comprehension, intelligence defect, poor judgment, dullness of mood, emotional liability and easily influenced behavior. Loss of insight is perhaps one of the most distinguishing features of the disease; the patient does not realize or admit that he is sick and when helplessly bed-ridden tells you that he is alright or feeling fine. Another important and early appearing symptom in the realm of the intellect is the loss of judgment of the paretic. He becomes lax in business, fails to keep engagements, becomes untidy and negligent in his personal habits. He has no apology to offer for his errors and throws himself unreservedly into the most ridiculous social and business transactions. He may have been an unassuming, economical, sober and normal husband, but now his entire attitude has changed—makes foolish business transactions, has no regard for the value of money, dresses loosely in showy colors, and worships freely at the shrines of Venus and Bacchus.

At this time the patient is usually in an institution and we are able to distinguish certain clinical types; the expansive type being the type most commonly encountered. Of the ten cases that I have recently studied, eight represent the expansive type. In this type as White states "the boastful ego rises to superior heights." Everything is seen from the standpoint of a feeling of abundant energy. At first the ideas are those of great exaltation, within the bounds of normal human experience, but soon the patient loses his earthly bonds and soars to super-human unrealities. One of our patients stated that he had billions and billions of dollars, was going to buy an automobile for all of his friends and wipe Germany out of existence in less than two weeks.

One case represented the depressed form, here anxious depressions was the distinguishing feature of the mental picture—these cases are not unlike melancholia in their ideas, they continually complain about their bodily discomfort, have lost their intestines or have destroyed their manhood by masturbation or sexual excesses. The dementing type of which we only saw one case is recognized by the progressive mental deterioration and motor paralysis without much excitement or delusion.

Mentally the disease may be confused with any of the other mental disorders, and it is not best diagnosed by the mental symptoms alone, we should bear in mind the cardinal symptoms, consisting of a progressive loss of memory, change of the personality, the indifference to the discrepancies of dates and memory, euphonia and the absurd hypochondriacal ideas.

The above description is merely a brief outline of some of the most important mental symptoms that one is most likely to encounter in the paretic. One will do well, however, to look upon all these signs as merely sufficient to arouse a suspicion of paresis and allow them to be outwieghted in the final decision by the results of physical examination. We shall mention briefly the principal physical findings of the paretic:-

(1) Motor Incoordinations: Tremor of the tongue, facial muscles and fingers are not infrequently met with, a spastic gait, Romberg-Babinski reflex, loss of tone in muscles, general loss of strength and incoordination in finer movements are often encountered in the paretic.

(2) Pupillary changes: The pupils usually show a variety of changes, such as differences in size, distortion of the pupillary outlines, Argyll-Robertson pupil and loss of the consensual light reflex are all symptoms of permanent value in the early diagnosis of paresis.

(3) Disorders of Speech: The paretic usually has a characteristic speech defect, frequently beginning with slight, stumbling of a tremulous nature and a slurring on certain letters or syllables, such a "r" or "l" especially noted on selected words as "electricity", "Methodist Episcopal", "Truly Rural" etc.

4. Alteration in Reflexes:—Involvment of the tendon reflexes is found in the majority of cases, either exaggerated in the greater number of cases, or diminished as is frequently met with in cases of posterior cord involvment.

5. Writing Disorder:—Shows alteration very similar to those of speech, the individual movements are irregular and uncertain, the strokes are frequently much longer than they should be, tremor and dropping of letters are very characteristic of the paretic's writing.

6. Convulsions:—These may be considered as the most important of all motor disorders, they are usually of the cortical epileptic type and frequently occur early in the disease. It may be said that in all cases of epilepsy occurring for the first time in adult life paresis should be thought of.

A careful study of the blood serum and cerebro-spinal fluid are of permanent importance and a diagnosis of paresis without the positive findings in the blood and cerebro-spinal fluid must always be regarded as lacking in a most important element. The result given here is made from the ten cases that we have recently studied—Wassermann reaction in blood positive, 90% — Globulin reaction, positive, 100%—Increased cell count in cerebro-spinal fluid 100%. Obviously the laboratory is the most valuable adjunct for the study of this disease and in aiding us to arrive at an early diagnosis.

Paresis is a fatal disease and once it is fully developed it is subject neither to amelioration nor to interruption. The progress of the disease is frequently interrupted by remissions, but soon the patient becomes apathetic and lives a filthy bedridden existence until relieved by death. The disease usually runs its course in from three to five years.

Treatment.—Realizing that we have a fatal disease to deal with and that when once established, it runs its course irrespective of treatment, obviously the combatting of paresis must begin with prevention. In the first place all measures must be taken which tend to safeguard against the spread of syphilis. The old treatment with mercury and potassium-iodide has been used for years in the treatment of general paresis, but little or no benefit has ever been claimed from their use. Vagner advises the use of mercury and iodide in conjunction with thyrodin. Marchand claims to have secured improvement in four out of seven cases by the injection into the spinal cord of mercury of biniodide. Cotton of New Jersey has contributed a very excellent article on the treatment of paresis by the well known Swift-Elles method, which consists of the intraspinous injection of Salvarsanized serum. We are, however, inclined to take a conservative view of these methods and agree with Collins who states that "there is no encouragement from experience recent or remote to justify the hope that we shall be able to cure general paresis until

such time when we shall recognize the disease much earlier than we do now". In view of this fact our greatest hope in combatting the disease must begin with prevention. The syphilis problem not unlike all others associated with sexual life has been dealt with too lightly. We do not hesitate to inform the public of the dangers of typhoid from contaminated waters, of malaria from the mosquito bite and so on. Why not make our knowledge concerning syphilis more effective in the community? Not until this is done shall we see the fulfillment of the one future hope in the amelioration of insanity from this cause.

It is to be hoped that the state will in the near future take a more active part in the prevention of this dreaded disease. A very commendable step was taken at the last term of our legislature when an act was passed requiring the State Board of Health to do Wassermann reactions without charge—but what has been done falls into insignificance when we see what is yet to be done.

DISCUSSION:

Dr. J. H. Taylor: I just want to say that Dr. Munnerlyn's paper is a tangible expression of the splendid scientific work that is going on down at the State Hospital, and that is simply a phase of the whole splendid hospital management.

CLASSIFICATION OF PATHOLOGICAL HEARTS.

J. E. Edwards, M. A. M. D.
Spartanburg, S. C.

MR. Lewellys F. Barker in his address before the South Carolina Medical Association, April 19, 1916, at Charleston, said, that should a Doctor sleep for ten years he would be a Rip Van Winkle in medicine, that no Doctor can afford to sleep more than eight or nine hours a day if he expects to keep up with the progress of his profession.

When you and I went to college we were taught; and even now in the standard text books there are chapters devoted to: Mitral regurgitation, mitral stenosis, aortic regurgitation, aortic stenosis, and so around to every valvular opening in the heart,—we were not taught the etiological cause of these lesions nor were there any classification of heart disease based upon an etiological factor or agent.

Dr. Richard Cabot in a recent article in the Journal of the American Medical Association, classified the heart diseases into four great classes according to their etiological agent and this seems to me to be the most rationalwa y to study the diseases of this great contractile organ. To classify disease according to the productive agent rather than the part of the body or organ that is diseased seems to me to be the more scientific way.

There are four practical—technical—tests that make it possible to study the cardio-vascular system from a new angle. These are made possible by: First, the Roentgenogram or X-Ray. Second, the phenothalin functional test of the kidneys or "red test." Third, the sphygmomanometer or blood pressure apparatus for ascertaining the systolic and diastolic blood pressure. Fourth, the Wassermann reaction for specific infection. Any one or all of these are now at the disposal of the most remote physician no matter where he may be engaged in the practice of his profession. Dr. Cabot has classified 600 hospital heart cases into the following classes: Rheumatic, Syphilitic, Arterio-sclerotic, Nephritic, and a few rarer diseases, as

Read before Spartanburg County Medical Society, October 27, 1916.

Goiter, Athletic, and Alcohol and the heart of obesity—(See chart).

Cabot—Classification of Cases with Failing Heart.

	Female	Total	Male
1 Rheumatic	170	278	108
2 Syphilitic	22	74	52
3 Arteriosclerotic	40	93	53
4 Nephritic	58	117	59
			272
	290	562 (93% of all)	
Goiter heart	5	8	3
Doubtful cases	11	30	19
			294
	306	38 (7% of all)	
TOTAL, ...			600

Now let us analyze the cases and find the underlying cause for which these leaks are only a symptom. Think back over your own heart cases and see how many you might classify into the first or Rheumatic class. These are the cases of heart disease that occurs from early childhood to young woman—and young manhood. These young patients have suffered from either acute follicular tonsilitis, acute rheumatic, arthritis, chorea and endocarditis. The causative agent being the streptococcus. It matters not what part of the body this infective germ attacks first, the patient will show the effects on his heart by an endocarditis or pericarditis, and it will be that the mitral valve will be the place of election. Why? Not as you and I were taught—because the germs floating in the blood streams lodge on the edge of the mitral leaflets and because of the powerful force by which these leaflets strike together that an inflammation was set up on their ends, but rather because these germs getting into the blood current find entrance into the coronary arteries and thence through the smaller capillaries to the valves of the left auricular-ventricular opening; causing first a defect in the valvular edges, thereby giving rise to mitral regurgitation, then later to contractions and mitral stenosis. The first murmur of the rheumatic heart is that of mitral regurgitation, then after the scar tissue begins to contract mitral stenosis begins, but always accompanied with mitral regurgitation.

In the second or syphilitic class are placed those giving a history of syphilitic infection and showing a positive Wassermann reaction. These are young men and young women from 25 to 40. We know that the spirochaeta pallida has a predilection for the aortic area and the myo-cardium. We know now that there are four clinical manifestations of syphlitic heart disease. First, the syphilitic angina coming on suddenly without cause and from the slightest exertion. Second, aortic dilatation. Third, aortic aneurism with its many manifestations. Fourth, valvular defects with aortic regurgitation. We might add a fifth—syphilitic myocorditis,—for we know that the spirochaeta pallida has a liking for the heart muscle.

The Third or Nephritic Class:

You all have seen these cases—they come to you with an increased systolic blood pressure from 160 to 240 MM and diastolic up to 180 plus. Suffering from cerebral as well as peripheral symptoms. The heart is hypertrophied, there is a snapping aortic second sound, and the pulmonic second is accentuated also. These hearts are murmurless h e a r t s, hypertrophied

hearts. There could be no high blood pressure with hypertrophied heart muscle. These pateints are young, robust, about 25 to 35 years of age, and as long as their hypertrophied heart holds out, get along well,—but after a while the heart muscle begins to weaken under the strain and the picture changes to one of failing compensation. You see then a patient suffering from dyspnea, swollen feet and legs, perhaps abdomen, and back with cough, tender enlarged liver, rales in the base of the lungs, a sharp heaving apex beat, aortic second sound accentuated, blood pressure fallen to 150 to 175. It is a picture of a mechanical oedema due to a dilatation of the heart, secondary to chronic interstitial nephritis. This is a typical kidney heart. They present a striking cardiac picture, but do not overlook the nephritic background. The dropsy is a clear cut cardiac dropsy and the nephritis is a clear cut chronic interstitial nephritis. When you find a patient with a blood pressure of 240 you can't stretch your imagination to anything else but that you have a chronic interstitial nephritis even though you can't find much albumen and casts in the urine. Now, as to the fourth class: These are the arterio-sclerotic hearts with weakened and sclerosed vessels, a part and parcel of a wide spread cardio-vascular disease—the heart of old age, the heart of the keen business man, who works hard, drinks hard, eats hard, and smokes hard. At forty they have the vessels of a man of eighty. They have misused their blood vessels badly. You know there is more or less hypertension. This is above 160 MM. You know this tension is due to five causes: First, the heart supplies the force; Second, large elastic vessels carry on the intermittent current; Third, the smaller vessels regulate the control to different parts, as taps or sluices, the capillaries are the irrigation system, and here is where the battle is fought. And then the veins and lymph channels are the drains.

There are three kinds of hypertension—First, simple hypertension without a visible cause—Second, hypertension and cardio-renal disease—Third, hypertension due to renal diseases.

Symptoms are due to stenosis of the coronary arteries, giving rise to angina pectoris. These symptoms may be cerebral, or may be peripheral, causing intermittent claudation, gangrene of the toes, they die suddenly from a rupture of a blood vessel of the brain or from an acute dilated heart.

To recapitulate: When dealing with a pathological heart, ask yourself the question—to which of these four groups does this heart belong, what kind of a heart am I dealing with? Get a survey of the heart field, listen for the heart tones, and don't begin to split hairs about mitral regurgitation and mitral stenosis, aortic regurgitation or aortic stenosis. If you have a patient who has had the rheumatic triad, acute tonsilitis, rheumatic arthritis, then you are dealing with a rheumatic heart. If there is a suspicion of lues have the Wassermann made and if possible, you may be sure there is an aortitis, then you will be able to help your patients by antisyphilitic treatment. If high blood pressure it must be a hypertrophied heart and of a nephritic origin and don't get busy reducing the blood pressure. If in old or premature age, you know it is an arterio sclerotic heart. Acquire the habit of asking what kind of a heart am I dealing with. Apply the qualifying adjective. It calls for an etiological qualification to classify these pathological hearts, and to give the proper treatment and a sane prognosis.

SAFEGUARDING FOODS AND DRUGS.

Washington, D. C.—In the enforcement of the Food and Drugs Act during the last year, U. S. Department of Agriculture officials analyzed 29,833 samples of foods and drugs offered for inter-state shipment and for import. A physical examination was made of samples from 76,468 shipments offered for import. Of these foreign shipments, 6,353 were found to violate the law in some respects and were either excluded from the country or admitted only after the importers had relabeled them to comply with the law. Of the samples of domestic products analyzed 3,535 either because of the nature of the product or because the label on it did not tell the truth, were found to be in violation of the Federal law. In 1,364 cases the Department recommended to the Department of Justice that criminal prosecution be instituted against the manufacturers or that the goods be seized. In many cases where there was merely some easily remedied flaw in the wording of a label, the shippers, after being warned in hearings, voluntarily took steps which made their proucts fully comply with the requirements. In all, there were held 8,715 such hearings, many of which resulted in the prosecutions indicated and the gathering of evidence for a large number of additional cases, which will be forwarded to the Department of Justice.

The Bureau of Chemistry, in its annual report, also calls attention to the fact through the system of Service and Regulatory Announcements now in use, manufacturers are given due notice of the requirements and thus are enabled voluntarily to make their products conform to the law. In this way the government achieves its purpose, frequently without entering into needless and very expensive litigation.

In the regulatory work, special emphasis has been given to the control of drug products and foods liable to spoilage and pollution. These frequently constitute a serious menace to health. The food inspectors have been instructed to be particularly watchful for inter-state shipments of bad eggs, milk, oysters, and spoiled canned goods, and false and fraudulently labeled medicines and spurious, synthetic drugs.

Curbing Fraudulent Medicines.

Attempts to counterfeit or adulterate imported drugs have been more common since the recent high price and scarcity of many of these products encouraged their imitation. It is interesting to note that of the 1,036 cases terminated in the courts during the year, 198 were brought on account of the false and fraudulent labeling of medicines. In all of these medical cases, save five, the courts found for the government, and this, it is believed, has exercised an important deterent effect on the vendors of nostrums shipped from one state to another.

The work of conrolling the fraudulent labels of medicines and mineral waters has been greatly strengthened by the establishment of a separate office to deal with these matters. At the request of the Secretary of Agriculture an officer of the U. S. Public Health Service has been detailed to take charge of this work. Moreover, through the close co-operation established with the foods and drugs officials of many of the States, the Department was able to direct the attention of the local authorities to the presence of spurious drugs in their States and, as a result, much of these fraudulent goods in the hands of local dealers and beyond the reach of the

Federal authorities were destroyed by State and municipal officers who, in many cases, prosecuted those responsible for the local traffic.

Milk, Eggs, and Oysters.

The co-operation in the sanitary control of the milk supply of small cities described in the report for last year has been extended in Illinois, Iowa, Missouri, Kansas, Nebraska, and in New England. It is proposed to repeat this work year after year, extending it each year to new territory. In some localities bad conditions were found, due in the main to insufficient cooling and careless handling. Perhaps the best results of this work has been that it stimulated some of the local authorities to take up similar work independently so that definite permanent improvement of the milk supply of a number of cities has resulted. The co-operative work on the control of the shipment of decomposed eggs described in the report of last year has been extended to cover much of the territory in which shipments originate so that eggs are now candled before shipment far more than formerly and the spoiled eggs destroyed or fed to poultry and stock. At the same time information given to local officials has helped them to curb local traffic in eggs rejected in candling.

The Bureau of Chemistry, after making co-operative sanitary surveys of oyster beds, issued warnings against the interstate shipment of oysters from polluted and doubtful beds, and, where these warnings were not regarded, undertook prosecutions. As a result, inter-state shipment from such territory was stopped.

Other Adulterations.

The campaign against the sweating of immature oranges and immature grapefruit so as to give the immature fruit the color of ripe fruit has been successful, largely because of the active help of the greater part of the citrus-fruit producers. Comparatively few sweated, immature oranges were offered during the last year, and it is believed the better quality of fruit resulted in a steadier market so that the producer as well as the consumer benefited.

Other forms of adulteration not already mentioned that received especial attention are the adulteration of scallops and canned tomatoes with water, the substitution of colored starch paste for tomato sauce, the reprocessing of spoiled canned goods, the traffic in cull beans, in decomposed tomato products, in rancid olive oil, in wormy horse beans, the substitution of foreign fat for cacao butterin and the addition of cacao shells to cacao products, the adulteration of rice bran with rice hulls, the coloring of inferior macaroni and of plain noodles, the misbranding of domestic macaroni in simulation of imported goods, and the adulteration of oats with water or weed seeds.

Consider the automobile. When the car is going to stand still for more than a few minutes the driver stops the engine. By doing this he saves gasoline, oil, and above all, useless wear and tear on the machinery. If he lets the engine "run idle" he has wasted a lot of valuable material, shortened the life of his engine and in the meantime the automobile hasn't budged an inch.

The birds build nests for the protection of their young against the weather; the foxes dig holes for security against foes; the squirrels lay by stores of nuts against the coming of winter; and dogs bury bones against the day when bones will be scarce. These are manifestations of

a normal protective instinct arising from experience of many, many generations. So far as is known though, no bird ever tried to build more nests than his neighbor; no fox ever fretted because he only had one hole in which to hide; no squirrel ever died of anxiety lest he should not lay by enough nuts for two winters instead of for one; and no dog ever lost any sleep over the fact that he didn't have enough bones laid aside to provide for his declining years.

This protective instinct is also present in the human mind and when properly directed is a great source of prosperity both to the individual and the nation. In order for man to store up and lay by, to gain advancement either in honor or material things, it is necessary that he take some forethought of the morrow, but just so soon as he carries this beyond the normal point the mental process becomes an exaggerated and abnormal one. The normal protective instinct is stimulated by a normal fear of those events which are reasonably sure to happen in the future unless means are adopted against them. The moment that this fear becomes abnormal or exaggerated it over stimullates this protective instinct and to no good purpose because it results in worry. This worry continues long after the necessity for the normal stimulus of fear has passed, with the result that there is an impairment in mental power and a dissipation of the nervous forces. In other words, the mental engine has been "running idle" and at the same time delivering no propulsive power. In fact, worry is an abnormal state.

Not all worry is preventable but for the most part it can be avoided. Most of our fears are never realized, and as a rule, if we meet our troubles day by day as they come without worrying about them before they arrive or fretting over them after they have passed, we will find that we have the strength to rise above them. Worry undermines the health to a certain extent. It really weakens the mental forces by tiring them out by doing nothing. Usually the relief from worry rests with the victim of this unhappy habit himself, but sometimes the real causes are not the ones which seem to explain the condition and we must go deep into our lives or have the assistance of those who are skilled in unraveling mental processes.

The best antidote for worry is a change of mental occupation, a getting away from the scenes which provoke worry, exercise in the open air, a good book, a pleasant recreation, or a temporary change of occupation. As a matter of mental health every sufferer from this unfortunate condition owes it to himself to discover some simple means of getting away from this habit which is destructive to health and peace of mind alike.

INTRAVENOUS THERAPY.

The intravenous administration of drugs is a new departure in therapy, but one which is rapidly increasing in use. Among its reputed advantages are that it is the quickest means of obtaining the effects of a drug, the effects are obtained with a certainty not obtained by other methods, and they are so marked that they cannot fail to impress the observer. These advantages in many cases are apparent rather than real; but even were they real advantages, they should not blind us to the various and serious dangers which this method involves. The technic, although not difficult, must be thoroughly mastered, or undue pain, infection, air embolism, or even death may result. Such acci-

dents, however, are ordinarily easily avoided, and should be considered quite inexcusable. More serious is the fact that the drugs given intravenously reach the system, and especially the heart, in a different manner and concentration from that to which physicians are accustomed with ordinary methods of administration. Pharmacologists have long practiced intravenous administration, when studying acute effects of drugs, and they have observed that frequently the immediate result of such injections is a prompt fall of blood pressure, not obtained when the same drugs are given by mouth or even hypodermically. This fall in blood pressure is commonly attributed to irritation of the endocardium. It is usually of short duration, but is certainly undesirable and sometimes may have serious results.

It has also been observed that several drugs, for instance, quinin and potassium, depress the cardiac muscle when given intravenously much more than when given in other ways. Furthemore, any substance which tends to precipitate proteins must be injected slowly and with extreme caution, or it will produce intravascular clotting and sudden death. Deaths have resulted not only from a lack of knowledge of the technic of intravenous therapy, but also from a lack of knowledge of drugs which may be so administered. Sudden death has been reported following the injection of an iron preparation containing peptone, and also following intravenous injection of ether. Intravenous injections, while soemtimes superior to the slower methods, are distinctly inferior when a continuous rather than a sudden action is desired. Drugs leave the blood system with great rapidity, and therefore their action on the circulation will cease promptly unless they are continuously supplied. It would be undesirable to inject intravenously such drugs as iodids, nitrites, iron or salicylates.

With these dangers and disadvantages in mind, it seems unwise to resort to promiscuous intravenous medication until the effects of this method have have been studied in detail for the drugs employed, and unless there are distinct advantages to be secured. This is the case when an immediate action is necessary in emergencies, as in the use of strophanthin for cardiac collapse, quinin in pernicious malaria, etc., or if the drug would be destroyed in the stomach or tissues, as in the case of salvarsan, or where the drug is not adequately absorbed by any other channel, as in the case of epinephrin.

Intravenous therapy will be most securely advanced if its employment is restricted to such well defined fields. These fields can be satisfactorily determined only by a scientific pharmacologic study of the action of these drugs when so administered in animals, as well as in man, under conditions in which the results are carefully controlled. The introvenous method is an impressive one, approaching in preparation almost to that which goes with a surgical operation. The patient is usually interested and impressed by this new, and to him, mysterious method. There is a psychic element in his reaction to the injection which is not a factor in his reaction to the same drug when given by mouth. The intravenous injection of a complex mixture would appear to be particularly reprehensible. Little is known, as has been stated, of the results to be expected from intravenous therapy, even with simple substances. The use of complex mixtures will without doubt react against the proper use of the method.—Jour-

nal of the American Medical Association.

WHEN WOMEN VOTE.

Speaking of the ten hour limit for women workers—a good thing—what about the new conditions that have arisen? Now women votes and is assuming the responsibilities of mere man. For example, she acts as an election official, reports for duty at 6 a. m. and finishes her work somewhere between fourteen to twenty-four hours later. When one considers the environment of the ordinary polling place one wonders whether it would not be advisable to make the regulations for conducting elections accord with the law.—Journal of the American Medical Association.

RECENT LEGISLATION FOR THE MEDICAL CORPS OF THE NAVY.

A few weeks ago, attention was called to legislation which had been enacted for the medical department of the army. The last Congress also enacted legislation for the Medical Corps of the navy which should make most attractive a career in that branch of the public medical service. Like the Medical Corps of the army, this corps is placed on a percentage basis equal to 6.5 per cent. of the total personnel of the navy, immediately increasing the navy, immediately increasing the corps from 345 to over 680 medical officers; there are at present over 350 vacancies. The corps now has all ranks, from that of assistant surgeon with the rank of lieutenant junior grade (corresponding to rank and pay of a first lieutenant in the army) to the grade of medical director with the rank of rear admiral (corresponding in rank and pay to that of a major general in the army). The establishment of the rank of rear admiral for medical officers, other than the officer temporarily holding the rank of surgeon--general, is a special achievement for the Medical Corps of the navy, as it establishes a dignity of high rank for a staff corps. The upper grades of the corps, that is to say, above the rank of lieutenant-commander (corresponding to the rank of major in the army), are distributed on a percentage basis—0.5 per cent. rear admirals, 4 per cent. captains (corresponding to the rank of colonel), and 8 per cent. commanders (corresponding to the rank of lieutenant-colonel). An officer in the lower grades of the Medical Corps is promoted through the various grades, with the officer of the line with whom or next after whom he takes precedence. Promotion is certain to be rapid for those entering the Medical Corps of the navy within the next three years. Twenty large general hospitals with most complete and modern equipment are maintained in various parts of the world. The corps also maintains a quarterly journal which reflects the scientific character of the work accomplished. Candidates for this corps are examined in two stages. The first stage of the examination is in the fundamental medical branches. The candidate, if successful, is then appointed to the Medical Reserve Corps. After a course of study at the Navy Medical School at Washington, D. C., he comes up for final examination for commission. The candidate may appear at a date mutually convenient to him and the board, as the latter is constantly in session at the naval hospitals at Boston, New York, Philadelphia, Washington, Norfolk, Charleston, Chicago, San Francisco and Puget Sound. To the young medical man who feels that he owes a duty to his country, and who would fulfill that duty, at the same time securing practical de-

velopment, broadening travel and experience in scientific research, the Medical Corps of the navy offers an exceptional opportunity.—Journal of the American Medical Association.

PUBLIC HEALTH EDUCATION.

W. C. Rucker, Washington, D. C., (Journal A. M. A., Nov. 11, 1916), says that publicity if properly managed is bound to do good. The chief criticism of what has been done in the past in the way of enlightening the public on the need of sanitation is that it has been too spasmodic and temporary. Too much dependence has been placed on the spoken word; while there has been an enormous amount of speech making and agitation, especially in times of great public danger, the results have too often been only temporary. What the American people want is more demonstration and less talk. Demonstration takes many forms, two of which are here especially noticed, namely, stereopticon slides and motion picture films. These two methods are very good, particularly in the education of children, but the effects lack permanency to a certain degree. The stereopticon lecture must be accurate and also entertaining; the lecture should be effective enough to do without the assistance of the slides and the slides should be good enough to tell their own story. The stereopticon form of demonstration is relatively cheap and that there is a demand for it is shown by the results achieved by the stereopticon loan library of the Public Health Service. The demands on it are enormous and it has been the means in the past year of reaching several million people, and there is no doubt that it has aided in spreading the gospel of sanitation. Moving picture films have not on the whole brought as good results as were expected. People do not go to the movies to be educated as a rule, they go for amusement instead, and the moving picture operators cater to this demand. The sanitary scenario must be sugar coated and live up to the traditions of the moving picture stage, and Rucker does not have any great expectations in its future sanitary instructions. It is surprising, he says, how much good can be obtained through well prepared charts, and well made models are most excellent but they are expensive and the uninterested public will not come to see them in great numbers Those which contain a puzzle which will make people stand in front and wonder how they operate are very efficient. Printer's ink is the great medium of public health education. Newspaper articles should be written with an absolute absence of medical terms. They must be convincing and still tell the story. Special articles in magazines are of great value and special bulletins are another valuable method provided they can be made to reach the people. The demonstration, however, which is of the greatest value is that which shows to the public just what can be accomplished by sanitation. The health officer who attacks a certain situation and conquers it produces an effect which is lasting, such as the people of New Orleans, for example, have had in the conquest of yellow fever and those of San Francisco in the handling of bubonic plague. The great sanitary hope of the future, Rucker says, is the education of the child today.

THERAPEUTIC RESEARCH.

Thomas Sollmann, Cleveland (Journal A. M. A., Nov. 11, 1916), reports the work of the Therapeutic Research Committee of the Council on Pharmacy and Chemistry of the American Medical Association, during the year

1912 and during the first half of 1916. The subjects of research for each year and the authors undertaking them are given with the results or conclusions so far as brought out. The subjects are numerous and only one or two can here be specially enumerated. Among the investigations are those on the natural and synthetic salicylates, between which no differences were found. The duration of digitalis action; intestinal antiseptics, and numerous other studies bearing on the value of drugs which have been more or less employed during past years, as well as certain clinical problems. A number of other problems are being studied and the results of some studies are nearly ready for publication, while still more problems remain to be solved.

INFANT FEEDING.

Joseph Brennemann, Chicago (Journal A. M. A., Nov. 11, 1916), advocates the use of boiled milk for the feeding of bottle-fed infants. This practice is almost universal in Germany and France, but has been rather discredited in this country. As regards the claim that boiling destroys vital ferments in the milk, he has not been able to satisfy himself, after the use of boiled milk for years, having previously used raw milk, that he has seen any difference in the nutrition that could be attributed to an absence of such vital principles. The only seeming exception to this is scurvy, and he refers to the report of the American Pediatric Society in 1898 which has gradually been given an unintended prominence in support of the idea that boiled milk is seriously scorbutic. One of the committee of five begged to be excused from subscribing to the report and another specially excepted in a minority report that sterilizing, pasteurizing, or cooking of milk food is in any way responsible for scurvy. In the discussion that followed there was considerable opposition, led by Christopher, against publishing any conclusions whatever. Reports from France and Germany, where boiled milk is used almost exclusively, seem to indicate that they have less scurvy than we. Even if boiling milk did rob it of some part of its antiscorbutic property, and it would be unwise to deny it absolutely, the rarity of scurvy, its magic-like curability, and its absolute preventability in infants by the use of orange juice, with also the fact that it has been cured with the usual rapidity with the use of boiled milk alone, would seem to deny that it has any such scurvy-producing quality. Cow's milk is not human milk in which some loss of nutritive qualities occurs by boiling. It is certainly not proved that it is damaged as an infant food and the chance that the effect would be the other way has to be reckoned with. He quotes Lane-Claypon's report to the British Local Government Board that the small differences as to nutritive values of raw and boiled milk have been in favor of boiled milk. Brennemann has not observed that boiled milk in proper therapeutic amounts is more constipating in infants than raw milk. Its first advantage is that it is sterilized as far as bacteria are concerned, even if it does not destroy their toxins, and he asks whether or not raw milk with living bacteria and their toxins is less harmful. When we leave the gastro-intestinal tract, there is no question that there is danger of infection from bacteria. The second advantage of boiled milk to his mind is the physiologic one When we use raw milk as a routine and the baby has diarrhea and indigestion, we boil the milk, and if it is more easily digested during diges-

tive disturbances, why not also in health? In his own experience he finds that babies are harder to feed on raw than on boiled milk. The most concrete discussible evidence of the relative digestibility of raw and boiled cow's milk as interpreted with the baby is the hard curd of the stool. Commonly they occur in undigested frequent stools, and when the stools approach the normal in consistency and frequency the curds become smaller, harder and more bean-like. He has seen the hard curds disappear when the same milk formula was boiled from two to five minutes. Boiling modifies the casein in milk just as much as sodium citrate or barley water, and he sees no warrant for considering the occurrence of hard curds in the stools alone as casein indigestion. Brennemann also favors pasteurization of boiled milk in the home, and considers certified milk in addition to its expensiveness as still better boiled. He thinks babies would suffer less if all the milk they used were boiled from two to five minutes in the home.

MALT SOUP EXTRACT.

B. R. Hoobler, Detroit (Journal A. M. A., Nov. 11, 1916), thinks that some more flexible formula than Keller's should be used in making malt soup for infant feeding. There should be a variety of methods advised for its use, according to what it is wanted for. Any infant food made up according to one invariable rule sooner or later becomes unsatisfactory. He thinks that von Liebig's original formula for normal infants, especially those whose weight is at a standstill and they tend to be constipated, offers a much greater field for the use of this valuable food. It is his custom in such cases to change the Keller formula, for the following reasons: "1. Boiled milk to my mind should not be given over long periods of time to children with a tendency to constipation. 2. Raw starch, or any starch cooked from only three to five minutes, should not be given to any infant, as it causes marked indigestion in many cases. 3. I do not think the proportion of one-third whole milk and two-thirds cereal water is the correct proportion in every case in which malt soup extract is indicated. 4. The use of the full quantity (3 1-2 ounces by weight to 1 quart) of malt soup extract is too arbitrary a quantity. This amount will often cause an infant to have too many watery stools, producing marked fall in weight due to water loss." Alkali potassium carbonate is more indicated in a formula designed for the correction of constipation than for diarrhea. Reducing this to a rule, he offers a formula which serves for a trial formula, and if a child retains it and there is gain in weight it is continued, but if still constipated and not gaining, gradually increase the malt soup extract. With each increase of the malt soup extract withdraw an equal amount of sugar, if one is near the carbohydrate limit, which of course varies in different children. Using this method of preparation one is at liberty to vary the amount and kind of cereal water used. Oatmeal has been known as a laxative cereal and releases its sugar rapidly, and if one desires a markedly laxative mixture it can be used in the cereal water with the malt soup extract. With this flexible formula, the milk and cereal water can be varied at will as regards quantity and other sugars as needed can also be added and withdrawn as the malt soup extract is increased.

LUNG REST.

G. B. Webb, A. M. Foster and F. M. Houck, Colorado Springs, Colo. (Journal A. M. A., Nov. 11, 1916), calls attention to the value of posture in the treatment of tuberculosis. When a tuberculous pationt rests on one side at night the dependent lung is restrained in its motion but the upper lung opens and closes about 12,000 times during ten hours of sleep. They have noticed a marked tendency in consumptives to lie on the right side and it thus happens that the very lung that needs the most rest, since the right side is most often first involved, is getting the most work. They give some statistics of their observations and state that they have found very little in regard to this point, which they consider of some importance in the literature. Link, however, suggested in 1902 a few hours' rest each day on the diseased side and calls attention to the possibility of hyperemia and added rest to the affected lung in this posture.

PERSONAL AND NEWS ITEMS

The Journal received an invitation from Dr. S. W. Pryor to the opening of his magnificent new hospital at Chester, S. C., Tuesday, 12th of December. This is one of the best equipped hospitals in the Southern States.

The National Board of Medical Examiners held its first examination from October 16 to 21, in Washington, D. C.

There were thirty-two applicants from seventeen states, representing twenty-four medical schools, and of these sixteen were accepted as having the necessary preliminary and medical qualifications, ten of whom took the examination.

The following men passed:

Dr. Harry Sidney Newcomer, John Hopkins University.

Dr. William White Southard, John Hopkins University.

Dr. Orlow Chapin Snyder, University of Michigan.

Dr. Thomas Arthur Johnson, Rush Medical School.

Dr. Hjorleifur T. Kristjanson, Rush Medical School.

As this will be of some general interest, we would appreciate a notice of this examination in your Journal.

Considerable interest has been aroused in medical circles by the announcement of the election of Mr. Louis R. Curtis, for 18 years Superintendent and Secretary of St. Luke's Hospital, Chicago as president of that Institution.

Mr. Curtis was born in 1865 in Philadelphia. He obtained his college training at Stevens, graduating as Mechanical Engineer. In 1889 he entered the hospital field as assistant superintendent of the New York Hospital. During that period he attended medical college, not with an idea of practicing, but to better fit himself for his hospital work. From the New York Hospital, Mr. Curtis went to the General Hospital of Elizabeth New Jersey, staying there for about one and one-half years. From there he came to St. Luke's Hospital, Chicago as superintendent and has been

the dominating figure in that Institution, both as Superintendent and Secretary, until recently, and is now Vice-President in charge of the operation of the Institution. During the last years Mr. Curtis has also been prominent as a consulting engineer, especially among hospitals, and has introduced many advanced and successful ideas in hospital construction and organization. His wide experience among hospitals and medical men, coupled with his technical training, makes him peculiarly well fitted for his new position.

Mr. Frank S. Betz, under whose control the concern bearing his name assumed its present proportions, will continue with the Company as Chairman of the Board of Directors and give the organization the benefits of his long experience and training. His many and diversified interests are given as reasons for his retiring as active head of the Company.

The Southern Gastro-Enterological Association was organized in Atlanta on Nov. 15th while the Southern Medical Association was in session there.

Active membership in this society will be limited to these investigators and practitioners of the seventeen Southern states who confine their work primarily to diseases of the digestive tract.

It will be the policy of the association to hold its regular meetings annually, the next place yet to be announced.

The following officers were elected: Dr. J. C. Johnson, Atlanta, Ga., Pres.; Dr. J. T. Rogers, Savannah, V.-Pres.; Dr. Marvin H. Smith, Jacksonville, Sec.-Treas.

Councillors: Dr. S. K. Simon, New Orleans, Dr. G. M. Niles, Atlanta, and Dr. Neale Harris, Birmingham.

Admission and Ethics: Dr. Geo. C. Mizell, Atlanta, Dr. J. E. Knighton, Shreveport and Dr. J. B. Fitts, Atlanta.

The American Society for the Control of Cancer has taken this occasion—the meeting of the Southern Medical Association in Atlanta—to send a number of its representatives into this part of the country on an educational campaign. Greenville was fortunate in having Dr. J. C. Bloodgood of Baltimore, at the Opera House, on the afternoon of Nov. 13th. He spoke to a large audience, giving also a lantern-slide demonstration. The Civic League, the daily papers, and the pulpits, not only of the city, but of the country as well, gave wide notice of th eaddress; with the result that a gathering of representative people throughout the country had the subject of cancer presented to them by Dr. Bloodgood. Many physicians were also present. The speaker, after being introduced by Dr. Houston, president of the County Medical Society, presented the subject of cancer in a clear, sensible, and forceful manner. The lantern-slides of the skin, mouth, breast, and other regions invaded by cancer were so well explained that anyone could understand how to prevent cancer in himself.

Instruction of this kind cannot fail to accomplish much good.

At a called meeting of the County Medical Society the same evening, Dr. Bloodgood talked informally to about twenty physicians—the others had left for the Atlanta meeting—until he had to leave for his train. The effect of his visit was stimulating.

SOCIETY REPORTS

PICKENS COUNTY.

The annual meeting of the Pickens County Society was held at Easley, Wednesday, Dec. 6th.

Out of a membership of twenty-one we had present fourteen. Our attendance throughout the year has been good and everything has been working harmoniously.

The Secretary wrote fourteen receipts for dues for 1917 at this meeting which seems to say that we are still alive to the interest of our Society and the profession.

The officers elected for 1917 are: President, Dr. W. A. Tripp, Easley, S. C., R.F.D. No. 4; Vice President, Dr. W. M. Long, Liberty, S. C.; Secretary-Treasurer, Dr. J. L. Bolt, Easley, S. C.; Delegates, Dr. J. L. Valley, Pickens, S. C. and Dr. L. L. Jameson, Easley, S. C.; Alternates, Drs. J. O. Rosamond and W. A. Tripp, Easley, S. C.; Board of Censors, Drs. J. L. Shirley, Central, S. C.; J. E. Allgood, Liberty, S. C. and J. L. Bolt, Easley, S. C.

J. L. Bolt, M. D.,
Secretary, Easley, S. C.

CHARLESTON.

The one hundred and twenty-seventh annual meeting of the Medical Society of South Carolina was held at the Charleston Hotel on the evening of December 11th, 1916. President Lane Mullally presided. There was an unusually large attendance. There were present, as guests of the Society, Drs. W. M. Gaston and J. C. Parham of the U. S. Navy Medical Corps and Dr. Chase of Boston, Mass.

The reports of the various officers and standing committees showed the Society to be in excellent condition. The membership now numbers seventy-two. Eight new members were added during the year 1916: Drs. M. W. Beach, Henry Deas, G. E. Heidt, H. M. Parker, Jr., W. J. Pettus, W. F. R. Phillips, R. B. Rhett and H. P. Wagener. The Society suffered the loss of two members through the deaths of Dr. John Forrest and Dr. St. Elmo Glover. Drs. Lane Mullaly and Edward F. Parker, having been members continuously for twenty-five years, were nominated Honorary Fellows.

The principal business transacted was the election of officers: The following men will serve the Society for the year 1917: President, Dr. Lane Mullaly; Vice President, Dr. Edward Rutledge; Secretary, Dr. Henry P. Wagener; Treasurer, Dr. D. L. Maguire; Librarian, Dr. F. G. Cain; Board of Censors, Dr. K. M. Lynch, Dr. J. A. Ball, Dr. W. P. Porcher; Delegates to the State Convention, Dr. R. S. Cathcart, Dr. F. L. Parker, Dr. A. J. Jervey and Dr. C. W. Kollock.

At the close of the business session, the Society adjourned to the banquet hall of the Charleston Hotel, where a delightful supper was served. After the completion of the physical repast, Dr. J. C. Mitchell, in the capacity of toast-master, served the banqueters with mental delicacies from well chosen speakers who blended serious and timely thoughts with entertaining humor in notably pleasing proportion. The evening was unanimously voted a success.

The Society is looking forward to entertaining the members of the First

District Medical Association in Charleston in January, 1917.

Henry P. Wagener, M. D.,
Secretary.

COLUMBIA SOCIETY.

The Columbia Medical Society met October 9, 1916. The President Dr. Julius H. Taylor called the meeting to order. The minutes of previous meeting read and adopted.

Dr. Kenneth M. Lynch, Professor of Pathology of the Medical College of South Carolina, read an article on the subject of "Splenomegaly". He stated that splenomegaly was a primary disease of the spleen resembling leukemia, Banti's disease, etc., but not the same. By animal experimentation with emulsions he has produced hyperplasia of the spleen, liver, lymph glands, and other organs. Dr. Lynch referred to the infectious nature of the disease, but as to the organism producing it there was doubt. As to treatment splenectomy had not proven satisfactory.

Dr. N. B. Heyward opened the discussion referring to the functions of the spleen, mentioning the various diseases of the organ with differential diagnosis, symptoms and treatment. Dr. Heyward Gibbes complimented Dr. Lynch upon his carefully prepared paper referring to two types of splenic anemia. One known as Gaucher's disease which is not relieved by splenectomy while Banti's Disease is benefitted. Dr. Lindsay Peters referred to the idea that splenic anemia is due to some infection. Any organism which causes a thrombosis may cause the disease. He also gave some indications for operation.

The president extended the privilege of the floor to the visiting physicians Dr. W. G. Houseal of Newberry, Dr. J. E. Douglass of Winnsboro and Dr. J. R. Hopkins of Hopkins.

Continuing the discussion Dr. R. W. Gibbes touched on the application of the rays in the treatment of splenomegaly, etc. To get best results, he stated that the radiation should be direct to the spleen which was unsatisfactory. Also stated that the lymphatic types were more effectively treated than the myelogenous types.

In closing Dr. Lynch offered to assist with any cases that the physicians may have, that he felt that the subject needed further working out.

Dr. Lynch also discussed the Needs of the South Carolina Medical College.

Dr. Houseal referred to the fact that we have a Class A Medical College in the State and asked for the support of the physicians. Dr. F. A. Coward spoke favorably of the school stating that it was no longer a Charleston school, but a state institution with good heads of deparments, etc. Dr. N. B. Heyward tells us that the school is much improved over former plan. Dr. W. R. Barron spoke in favor of developing the department of urology. Dr. N. B. Edgerton stated that since the entrance requirements had been raised the school compared very favorably with the northern schools. Dr. F. D. Rodgers has noticed a striking change in the teaching staff since his graduation. Dr. Heyward Gibbes, chairman of Medical Education in the state suggested that each member spend a few days at the college before the State Association meets at Spartanburg next April. Dr. W. A. Boyd thinks the college worthy of pride judging from the material that has come from there. (Referring to Dr. Lynch) Dr. J. LaBruce Ward, Dr. William Weston and Dr. Hubert Claytor also discussed the college.

Motion carried that the application

of Dr. L. W. Blake be held up until his return from Europe.

The applications for membership of Dr. B. H. Baggott and Dr. J. R. Boling presented.

Motion carried that the thanks of the society be extended to Dr. Lynch for his carefully prepared article and that the members pledge themselves to support the budget of the South Carolina Medical College.

Adjournment.

Edythe Welborne.
Secretary.

SPARTANBURG COUNTY.

The Spartanburg County Medical Society had a very good attendance at the regular monthly meeting held on Nov. 24th.

The Society had as guests Drs. Earle of Greenville and Hines of Seneca, who came to discuss preliminary arrangements for the meeting of the State Association in April.

The Society is always glad to have these gentlemen as guests.

Dr. N. T. Clark read a paper on "The Nose" which was very generally discussed. Drs. Earle and Hines discussed very informally with the Society some of the plans for the State Meeting and requested that the entertainments be as simple as possible.

L. Rosa H. Gantt,
Secretray.

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BOOK REVIEW

SEX PROBLEMS OF MAN IN HEALTH AND DISEASE—A popular study in sex knowlegde, by Moses Scholtz, M. D., Chief of Clinic and Clinical Instructor in Dermatology and Syphilology, Medical Department University of Cincinnati; Fellow of American Medical Association, Ohio State Medical Society, Medical Academy of Cincinnati, Society of Moral and Sanitary Prophylaxis, etc. Cincinnati, Stewart & Kidd Company, 1916.

THE PHYSICIAN'S VISITING LIST FOR 1917.—Sixty-sixth year of its publication Philadelphia, P. Blackiston's Son & Co., 1012 Walnut Street. This excellent little book has been on the market for more than half a century, evidently giving great satisfaction. A number of improvements have been made, especialy in the dose table. The book is attractively bound in leather, good print and paper. Price $1.25.

GERIATRICS.—The Diseases of Old Age and their Treatment. Including Physiological Old Age, Home and Institutional Care, and Medicolegal Relations, by I. L. Nacher, M. D., Chief of Clinic department of internal medicine, Mount Sinai Hospital Dispensary, New York; Formerly special lecturer on Geriatrics, Fordham University School of Medicine With an Introduction by A. Jacobi, M. D. Second edition, revised, with fifty plates. Containing 81 illustrations. Philadelphia, P. Blackiston's Son & Co., 1012 Walnut Street, Price $5.00.

American literature has few books and authoritative articles on the subject of old age and its diseases. The author has endeavored in a comprehensive volume of 527 pages to present the subject. The anitomical and the physiological changes in old age have been gone into pretty thoroughly as a preliminary. The Senile changes with excellent X-Ray plates make up a large section of the book. There is a section on the surgery of old age, also the Home Care and the Institutional care of the aged. There is probably an important place for such a work and therefore the writer has conferred a favor upon the profession by bringing out this, the second revised edition.

THE MEDICAL CLINICS OF CHICAGO—November, 1916, Volume 2, Number 3. Published bi-monthly by W. B. Saunders Company, Philadelphia and London. The following subjects are taken up:

Clinic of Dr. Walter W. Hamburger, Cook County Hospital. The Modern Medical Treatment of Chronic Cancer of the Stomach and Duodendum.

Clinic of Dr. Isaac A. Abt, Michael Reese Hospital, Sarah Morris Memorial Hospital for Children). Infantile Paralysis (Acute Poliomelitis).

Clinic of Dr. Ralph C. Hamill, Cook County Hospital. Acute Anterior Poliomyelitis.

Clinic of Dr. Charles LouisM ix, Mercy Hospital. Two cases of primary Pernicious Anemia.

Contribution by Dr. William Allen Pusey, St. Luke's Hospital. Some cases of Eczema from External irritation.

Clinic of Dr. Frederick Tice, Cook County Hospital. A case presenting Addison's Syndrome. Gangrene of the Lung; with special reference to treatment.

Clinic of Dr. Herman L. Kretschmer, Presbyterian Hospital. The treatment of Chronic Colon Pyelitis by Pelvic Lavage.

Clinic of Dr. Charles Spencer Williamson, Cook County Hospital. Polycystic Kidneys. A case of recurrent Endocarditis with Cerebral Embolism. A typical case of Gout.

Clinic of Dr. Frank Smithies, Augustana Hospital. Cases Illustrating Spasm at the Cardia and Cardiospasm Associated with Diffuse Dilatation of the Esophagus.